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MEASURING THE COPING EFFORTS OF GRIEVING UNDERGRADUATE STUDENTS:
DEVELOPING THE GCOPE THROUGH A MIXED-METHOD DESIGN

A dissertation project completed in partial fulfillment of the requirements for the degree of Doctor of
Philosophy at Virginia Commonwealth University

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Table of Contents

	Page
Acknowledgements	ii
List of Tables	v
List of Figures.....	vii
Abstract.....	viii
Introduction	1
Review of the Literature	6
Overview of Grief.....	6
Phenomenology of Grief	7
General Methodological Issues Extant in the Grief Literature.....	14
Specific Populations: The need for developmentally informed research	33
Statement of the Problem	40
Summary of Hypotheses.....	44
Pilot Study and Development of Focus-Group Methodology	45
Methods	46
Results	52
Discussion.....	63
Study 1: Qualitative Study.....	73
Methods	74
Results	80
Discussion.....	93
Study 2: Quantitative Study.....	99
Methods	100
Results	108
Discussion.....	175
Overall Conclusions and Future Directions	215
List of References	224
Appendices	244
A Focus Group Facilitation Guide	244

B	Focus Group Facilitator Training Guide.....	254
C	Demographic Questionnaire	261
D	Characteristics of Loss.....	263
E	Inventory of Complicated Grief.....	266
F	Item Generation Guide	269
G	GCOPE Initial Item Pool.....	275
H	The Brief COPE.....	280
I	The Brief RCOPE for Grief	282
J	The Integration of Stressful Life Experiences Scale.....	284
K	The GCOPE.....	286
	Vita	289

List of Tables

	Page
Table 1. Major themes identified by facilitators across pilot study groups.....	53
Table 2. How does the loss affect students?.....	54
Table 3. How do students cope?.....	55
Table 4. Pilot-study participants' open-ended responses and author's code.....	56
Table 5. Demographic information for focus-group participants.....	74
Table 6. Missing data for categorical variables.....	110
Table 7. Descriptive statistics for demographics and loss characteristics of Subsample A.....	111
Table 8. Frequencies and percentages for categorical demographic variables in Subsample A.....	112
Table 9. Frequencies and percentages for characteristics of the loss variables in Subsample A.....	114
Table 10. Item text and descriptive statistics for nonnormal items.....	115
Table 11. List of significantly intercorrelated GCOPE items	117
Table 12. Items removed from analysis due to low communalities	120
Table 13. Eigenvalues and variance explained during initial factor extraction	122
Table 14. Factor loadings for the 2-factor 58-item solution.....	125
Table 15. Variance explained by the factors in the 128-item 5-factor solution	130
Table 16. Intercorrelations between the five factors	130
Table 17. Factor loadings for the 63 items retained in the 5-factor model	132
Table 18. Variance explained by the 5 factors in the 63-item model.....	134
Table 19. Factor loadings of items removed from the 5-factor model.....	135
Table 20. Variance explained by factors in the 56-item, 5-factor model	135

Table 21. Item content and factor loadings for final 56-item solution.....	137
Table 22. Factor correlation matrix for the 5-factor model.....	139
Table 23. Internal consistency estimates for the five factors	139
Table 24. Descriptive statistics for continuous variables for subsample B.....	140
Table 25. Frequencies and percentages for categorical demographic variables in subsample B.....	142
Table. 26. Frequencies and percentages for characteristics of the loss variables in Subsample B.....	144
Table 27. Items retained in the final 27-item version of the GCOPE	149
Table 28. Descriptive statistics for the 5 subscales of the GCOPE.....	151
Table 29. Internal consistency estimates for the five factors	152
Table 30. Bivariate correlations between GCOPE subscales and Subscales of the Brief RCOPE for Grief and the Brief COPE.....	155
Table 31. Bivariate correlations between GCOPE subscales and outcome variables.....	159
Table 32. Hierarchical regression model with Grief as the dependent variable.....	163
Table 33. Hierarchical regression model with Meaning-Made as the dependent variable	164
Table 34. Hierarchical regression model with Spiritual Wellbeing as the dependent variable	166
Table 35. Hierarchical regression model with Self-Rated Health as the dependent variable	167
Table 36. Hierarchical regression model testing for interaction effects of time since loss on coping strategies.....	174

List of Figures

	Page
Figure 1. Hierarchy of prompts specified in the facilitation guide.....	47
Figure 2. Coding scheme developed in Study 1	81
Figure 3. Scree plot for the 128-item unrotated solution.....	123
Figure 4. Scree plot of the 5-factor, 63-item solution	134
Figure 5. The structural equation model for the 27-item GCOPE	150
Figure 6. Scatterplot of the interaction effect of type of loss on the relationship between religious coping and self-rated health	169
Figure 7. Scatterplot of the interaction effect of type of loss on the relationship between support-seeking and self-rated health.....	170

Abstract

MEASURING THE COPING EFFORTS OF GRIEVING UNDERGRADUATE STUDENTS: DEVELOPING THE GCOPE THROUGH A MIXED-METHOD DESIGN

By Benjamin Dyson Lord, Ph.D.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2015

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Associate Professor of Psychology
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The current study used a three-phase mixed-methods design to produce a new self-report measure of the strategies that college students use to cope with the death of a loved-one. To date, no other coping inventories exist which have been developed specifically to measure coping strategies that are relevant to this population. This is particularly problematic, as undergraduate students commonly experience bereavement and may be at unique risk for poor outcomes. College students are often estranged from their primary support networks and may also be in the process of undergoing important developmental tasks related to emerging adulthood. Stress and coping models allow for the idiosyncratic nature of

the grieving process. However, the application of grief-specific stress-and-coping theories, such as the Dual Process Model of Coping with Bereavement (DPM), have been hampered by measurement issues.

The current study aimed to address the flaws asserted above through the use of a mixed-methods scale development design. The primary goal of the study was the creation of a self-report measurement tool for assessing the use of coping behaviors by bereaved undergraduates. To this end, the researcher made use of the discussion component of a bereavement-focused special topics course to refine a focus-group facilitation guide and generate a preliminary list of content domains. In Study 1, three bereaved students participated in a formal focus-group which was then subjected to a constant-comparison analysis. Three graduate-level bereavement researchers drew from the qualitative data available from the Pilot Study and Study 1 to develop a pool of 192 items for use in quantitative analysis. In Study 2, these items were administered to a sample of 700 bereaved undergraduates. Exploratory and Confirmatory factor analyses suggested that a 5-factor model was the best fit for the data.

Results suggest that bereaved students draw from a variety of strategies when coping with bereavement, including using drugs and alcohol, seeking support from others, accessing religious faith, investing energy in new relationships and identities, and experiencing depression symptoms. Preliminary support was also provided for the construct and predictive validity of a 26-item coping strategies measure with five subscales named the GCOPE.

Measuring the Coping Efforts of Grieving Undergraduate Students: A Mixed-Method Exploratory Analysis of the Dual-Process Model of Coping With Bereavement

Bereavement and the emotions that accompany it have been described as “universal human experiences” (Allumbagh & Hoyt, 1999, p. 370). However, the loss of a loved-one to death is also considered one of life’s most impactful stressors (e.g. Holmes, & Rahe, 1967). Bereavement as a stressor represents a significant public health concern, as the recently bereaved are at increased risk for suicide, depression, substance abuse, chronic health problems, mortality, and impaired quality of life (Boelen & Prigerson, 2007; Stroebe, Schut, & Stroebe, 2003; Yalom & Vinogradov, 1988). Indeed, the empirical study of grief and its impact on health, wellbeing, and mortality eventually led the Institute of Medicine (IOM) to issue a formal report on the public health implications of grief (Osterweis, Solomon, & Green, 1984). Prigerson, Vanderwerker, and Maciejewski (2008) stated, “The distress, adverse health behaviors, and health impairments associated with PGD [Prolonged Grief Disorder] imply the need for health care professionals to attend specifically to symptoms of PGD” (p. 175). Despite this recognition of the importance of understanding and managing bereavement experiences, methodological flaws have impaired the progress of grief research to date.

More recently, the “Report on Bereavement and Grief Research” published by the Center for the Advancement of Health (2004) updated the findings of the IOM. They contrasted the firm base of research regarding the psychological and physiological consequences of bereavement, and the less satisfactory state of research which would be applicable to evidence-based practice (p. 569). Indeed, the evidence of *what* the negative effects of bereavement can be has far outstripped our knowledge of *how* these problems develop and *in what ways* individuals cope with the specific challenges that accompany the

loss of a loved-one. The report concluded that there is a need for an overarching theoretical framework for integrating findings, increased attention to the variety of bereaved populations, and more thorough measurement of grief processes.

Grief has historically been conceptualized in terms of fixed stages which one must pass through (e.g., Kubler-Ross, 1969; 2007) or set tasks which one must accomplish (e.g., Worden, 1991). Psychodynamic models, for example, have emphasized the importance of confronting negative memories and emotions and decathexis from the deceased (Deutsch, 1937). However, recent conceptualizations have challenged the assumptions of psychodynamic and stage models, and emphasized the idiosyncratic nature of the grieving process (Wortman, & Boerner, 2007). Stress-and-coping approaches (e.g. Lazarus, & Folkman, 1984) more appropriately reflect this “extraordinary variability” (Wortman, & Boerner, 2007, p.285), as they allow for people to grieve in individual ways, both adaptively and maladaptively. In place of the general transactional model of stress and coping, Stroebe, and Schut (1999) have suggested a bereavement-specific alternative known as the dual-process model of coping with bereavement (DPM). As opposed to a specific set of stages through which bereaved individuals should pass, the DPM hypothesizes that individuals will oscillate between two general types of coping, loss-oriented coping (i.e. coping with primary effects of the loss) and restoration-oriented coping (i.e. coping with secondary effects). Although the DPM provides a general framework which could potentially encompass various other theories of grieving (e.g. meaning-making, trajectory theory), empirical study of the constructs has been hampered by a lack of thoroughly-designed measurement tools.

Researchers in the field of stress and coping have long advocated the microanalysis of processes that individuals use to cope with specific stressors (Lazarus, & Folkman, 1984). There has been a call to “move away from global assessments toward specifics” in order to pinpoint “what it is that is being coped with,” (p. 317). This echoes a need in the grief literature to expand research to encompass specific bereaved populations (e.g. military casualties, young adults who have lost friends), rather than using convenient samples of older adults. Clearly, grief research from a stress-and-coping perspective requires a developmentally-informed approach, as different age-groups may respond to loss differently. Although a separate literature has begun to develop for parents who have lost a child (e.g. Murphy, Johnson, & Lohan, 2003), and children who have lost a parent or a sibling (e.g. Hogan, & Desantis, 1996), there remains a large gap in the literature in terms of the effects of loss experienced by college students (Balk, Walker, & Baker, 2010).

Undergraduate students may be particularly at risk for negative outcomes following a loss. Their primary support networks are generally less available. They may be in the midst of weaknesses in identity development inherent in the emerging adult age-group (Arnett, 2000), and suffer from a lack of preparedness of University resources (Balk, 1997). Balk, Walker, and Baker (2010) reported that up to 30% of randomly sampled college students have lost a loved-one within the past 12 months, and up to 40% are within the first two years of bereavement. However, despite this surprisingly high number of bereaved students on college campuses, no specific tool has been developed to measure the strategies that undergraduates use to cope with their grief. The use of general coping checklists is a common practice, but raises questions about the content validity of the data being collected (Vogt, et al., 2004).

Grief research has undergone a paradigm shift over the past three decades since the publication of the IOM report (Osterweis, Solomon, & Green, 1984). Rather than relying primarily on untested theories, clinical impressions, and truisms, there is now an emphasis on the use of experimental methods such as randomized clinical trials (e.g. Shear et al., 2005). Increases in the number of empirical studies in general, in research on risk and protective factors, and in developing assessment tools and intervention strategies has progressed fairly swiftly since the publication of the IOM report (Osterweis, Solomon, & Green, 1984). Although the bereavement literature continues to expand (a PsycInfo search for empirical journal publications using the term “bereavement” for 2013 alone produces 183 results, as compared to 62 for 2000) the science of grief continues to suffer from measurement issues which may hamper our understanding of grief processes. These issues include insufficient development of new measures for constructs relevant to emerging grief theories, lack of validation with specific populations, and a lack of focus on content validity.

The current study aimed to address the flaws asserted above through the use of a mixed-methods scale development design. The primary goal of the study was the creation of a self-report measurement tool for assessing the use of coping behaviors by bereaved undergraduates (the *GCOPE*). To this end, a three-phase study design was implemented. First, a pilot study using an informal focus-group format was conducted to develop and refine a focus-group facilitation guide. Then in Study 1 a formal focus-group was completed and subjected to a constant-comparison analysis. This analysis then formed the foundation of item-generation for Study 2. The use of qualitative methods allowed an in-depth examination of variables that are currently only theoretical in nature (Stroebe, Stroebe, & Schut, 2003) and potentially improved the content validity of the resulting item pool (Vogt, et al., 2004).

In Study 2, the items developed from the qualitative analysis were combined with items derived from coping checklists that have been used previously in the bereavement literature, with a focus on measures of the DPM (e.g. Bennett, Gibbons, and Mackenzie-Smith, 2010; Wijngaards-de Meij, et al. 2008). These items were administered to a large sample of bereaved undergraduates. This sample was randomly partitioned into two subsamples for exploratory and confirmatory factor analyses. It was hypothesized that an exploratory factor analysis would result in a factor structure that included two higher-order factors consistent with those theorized in the DPM. However, the analysis resulted in a five-factor model. During the second portion of Study 2, confirmatory factor analysis of the data in the second subsample was used to estimate the fit of the final model. Finally, the researcher examined bivariate correlations and used hierarchical regression analyses to examine the relationship between the resulting measurement tool and important outcome data to provide evidence of predictive, convergent, and divergent validity. It is hoped that the mixed-method process described above contributed to the literature by 1) providing a description of how college students experience and cope with loss and 2) testing the hypothesis that college student coping strategies match the structure of the DPM and 3) producing an empirically derived coping checklist for future research with bereaved undergraduates.

In the following sections, a review of the literature is presented in which an overview of the above-mentioned methodological issues is provided. An overview of the general grief literature is followed by a review of the physical, psychological, and positive outcomes that are associated with the loss of a loved-one. These issues generally serve as a preface to a discussion of the shift in the grief literature, from psychodynamically-informed stage models to general stress-and-coping models, and the emergence of the DPM as an integrative

theoretical framework. This includes a brief overview of significant theories of grieving, a review of the stress-and-coping research that has been conducted with bereaved participants to date, and a thorough description of the DPM. This is followed by a section on the need for developmentally informed research with emerging adults, which includes a review of the characteristics of emerging adults and a review of the research on emerging adults with an emphasis on college students. Finally, a section on measurement issues reviews general measurement issues in the stress-and-coping literature and how they apply to research with bereaved populations. This is followed by a section discussing the use of qualitative methods and implications for scale development.

Review of the Literature

Overview of Grief

Definition of terms. Stroebe, Hansson, Schut, and Stroebe (2008) define *bereavement* as the “objective situation of having lost someone significant through death,” (p. 4). “Someone significant” can refer to any personal loss experienced across the lifespan. Most research to date has focused on spouses (Hardison, Neimeyer, & Lichstein, 2005), parents (e.g., Bohannon, 1991; Gilbert, 1992; McIntosh, Silver, & Wortman, 1993), and, to a lesser degree, children (Worden, 1996). *Grief* is defined as the emotional reaction which accompanies the state of bereavement. This reaction today is generally considered to include “diverse psychological...and physical manifestations,” including loneliness, anger, despair, yearning, withdrawal, and hallucinatory re-experiencing of the lost figure (Stroebe, et al., 2008, p. 5). Finally, *mourning*, a term often used interchangeably with grief, is defined as the

way that grief is displayed to the public, and is often based on religious beliefs and social customs.

Phenomenology of Grief

Grief is an idiosyncratic process in the sense that individuals seem to react to the loss of a loved-one with a wide range of cognitive and emotional states (e.g., Bonanno, 2004). However, it is possible to categorize the types of feelings that tend to characterize a state of grieving in most individuals. Numerous questionnaires and self-report measurement tools have been developed to identify grief in its many different forms, with varying amounts of methodological rigor and empirical support. Unfortunately, many of these questionnaires were either derived from “experts” operating on untested assumptions regarding the course that grieving should take, or were developed using items from those measures (Neimeyer, Hogan, & Laurie, 2008). Perhaps the most comprehensive contemporary measurement tool for describing grief as a phenomenological experience is the multi-dimensional Hogan Grief Reaction Checklist (HGRC; Hogan, Greenfield, & Schmidt, 2001).

Uniquely, the HGRC was developed empirically based on interview data collected from adults who had lost a loved-one. The items developed from this data were then rated by a panel of experts in order to wean the number of items, and the completed scale was validated on a sample of 586 bereaved adults. This scale development process has been used only infrequently in the grief literature at large, with most studies being conducted using preexisting or rationally derived measures. Notably, Hogan et al. (2001) have assumed that the grief experiences that people have will differ depending on the cause of death and will fluctuate over time. They were able to confirm this empirically during the validation of the

HGRC. Factor analysis was used to identify common categories of experience described by bereaved individuals. The HGRC suggests that the typical grief experience may consist of varying levels of six major categories of experience: despair (“I don’t believe I will ever be happy again”), panic behavior (“I startle easily”), blame and anger (“I feel revengeful”), detachment (“I feel detached from others”), disorganization (“I have difficulty concentrating”), and personal growth (“I feel as though I am a better person”). Interestingly, some of these clusters of symptoms overlap with symptoms of depression (i.e. despair, detachment, disorganization) while others may be similar to symptoms of posttraumatic stress disorder (i.e. panic behavior).

In addition to the phenomenological/psychological experience described above, research has shown that the loss of a loved-one has wide-ranging outcomes on individuals’ physical and psychological health and behavior. A review of the relevant research is provided below.

Outcomes of the grieving process.

Physiological and health outcomes.

Mortality. Kraus and Lilienfeld (1959) were among the earliest researchers to empirically demonstrate that bereavement has negative health consequences. In their study they showed that widows have a significantly higher mortality rate than their non-widowed peers in the first year following the loss of a loved one. This groundbreaking study is prototypical of later grief research in several ways. First, the study made use of widows as a convenient subsample of the bereaved. This trend has continued, as older adults and the spousally bereaved make up the bulk of grief research in general and longitudinal research in

particular. Second, the study provided a good example by matching the bereaved with a control group of non-bereaved peers. Although this practice is commonplace in epidemiological research on the health impacts of grief, it is less often found in research on the psychological impacts of grief, or the effect of grief on core beliefs and meaning-systems. Third, it set the stage for numerous studies examining mortality as an outcome of bereavement. A review conducted by Stroebe, Schut, and Stroebe (2003) identified 16 longitudinal studies published after 1997 which examined the mortality of bereaved individuals. Although these were generally large sample studies, all but two only sampled those who had lost a spouse. The general consensus was that spousal bereavement does increase one's risk for mortality, particularly within 6 months following the loss, and more specifically increases the risk of suicide in survivors. The risks are generally higher for widowers than they are for widows, and younger spousally bereaved individuals are at higher risk than older widowers and widows. One study conducted by Li, Precht, Mortenson, & Olsen (2003) in Denmark examined the mortality rates of 21,060 individuals who had lost a child compared to 293,745 controls. They found that the loss of a child increases risk for mortality in mothers and fathers of children who die before the age of 18.

Subjective health and healthcare utilization. Maddison and Viola (1968) extended grief-related outcome research beyond mere mortality by comparing the health complaints of widows to a non-bereaved control group. They found that those who had recently lost a loved-one reported significantly more somatic complaints (i.e., dizziness, headaches, pain, sweating) than those who had not experienced a loss. More recently it has been recognized that certain somatic symptoms, especially those associated with anxiety and panic, are a common feature of the normative grieving process (Hogan, Greenfield, & Schmidt, 2001).

Other research has provided evidence for the effects that *maladaptive* grieving has on physical health. Prigerson et al. (1997) conducted a survey of 150 spousally bereaved individuals, and evaluated both their mental and physical health status with a variety of measures including blood pressure and questions about health behaviors. They produced a variety of surprising findings. Participants who displayed symptoms of traumatic or prolonged grief (as measured by the Inventory of Complicated Grief) were significantly more likely to receive a cancer diagnosis at follow-up than those who did not experience these symptoms. Additionally, those who exhibited these problematic grief symptoms were also more likely to experience increased blood pressure, and deterioration in health behaviors (greater smoking and drinking, impaired sleep) than those who appeared to be grieving in a more adaptive manner (i.e., those who did not score above 25 on the Inventory of Complicated Grief).

Symptoms indicative of maladaptive grief reactions have since been grouped together as a psychological syndrome termed *Complicated Grief (CG)* or *Prolonged Grief Disorder (PGD)*, and were suggested for inclusion in DSM-V (Prigerson et al., 2009). Symptoms include yearning for the deceased, difficulty accepting the death, numbness and detachment, discomfort with pursuing new relationships, and feelings of emptiness that disrupt day-to-day functioning and persist for more than 14 months. While the development of a pattern of responses that indicate risk for poor outcomes does move the literature forward, ideas about the coping processes that may determine ones likelihood of developing a maladaptive grief reaction remain largely theoretical at this time (Stroebe, Folkman, Hansson, & Schut, 2006).

Additional research in this area makes use of objective measures of health. Stroebe and Stroebe (1987) reviewed research on the impact of bereavement on disability status and medical system utilization, and concluded that grieving patients are both more likely to report a disability and make a greater use of the healthcare system than those who have not recently lost a loved one. The previously cited review conducted by Stroebe, Schut, and Stroebe (2003), updated these findings, and concluded that bereaved individuals are more likely to have health problems, and have higher levels of medication use, disability, and hospitalization than age-matched non-bereaved peers. However, as with mortality research, the vast majority of studies have been conducted with spousally bereaved samples, and have tended to include primarily older adults. A single study evaluating the health effects of the loss of a child demonstrated that both mothers and fathers reported continually declining health following the loss on self-report measures (Murphy et al., 1999). However, this study did not include a matched control group of non-bereaved individuals, nor did it utilize objective measures of health.

Psychological outcomes. Aside from the physical health impacts reviewed above, the grieving process also involves a well-described psychological component, including emotions, feelings, and cognitions. Although most people are resilient in the face of a loss, a small but significant percentage of individuals (10-20%) will experience symptoms that do not resolve without intervention (Bonanno, 2004). This class of symptoms (often labeled CG or PGD, and described above) is predictive of mental and physical health consequences in the long-term. Prigerson et al. (1997) demonstrated that those individuals suffering from CG were more likely to experience symptoms of depression and anxiety, and were at a higher risk for suicidal thoughts than those who did not meet CG criteria. While most individuals appear

to be resilient to grief, there is evidence that many experience an acute period of psychological distress (i.e. Bonanno et al., 2002), and as many as 20% of individuals may develop clinically significant symptoms of depression (Hansson, & Stroebe, 2007), while relatively high rates of PTSD have been shown in at least one study of parents who had lost a child when compared to nonbereaved individuals (Murphy, Johnson, & Lohan, 2003).

Positive outcomes. Most early prevalent grief theories were based on either Freud's (1917) analytic interpretation of grieving or Bowlby's (1980) attachment model. Each of these theories holds central the idea that the loss of a loved-one involves a difficult confrontation regarding the loss, followed by a period of intense distress or depression. One example typical of this attitude about grief can be found in Schacter (1986) who states that "virtually everyone whose spouse dies exhibits some signs and symptoms of depression" (p. 170). A corollary to this assumption is the idea that individuals for whom depressive symptoms are mild or absent are somehow grieving incorrectly. Additionally, prominent early theories of grief tended to describe the experience of positive emotions during the early stages of grieving as inappropriate, or as evidence of denial (e.g. Deutsch, 1937).

On the contrary, evidence from the stress-and-coping literature has provided ample reason to believe that positive emotions are common following a stressful life event (Folkman, 1997), and it is now accepted that the spontaneous experience of positive emotions is both common during stressful events, and may serve as an adaptive method of coping (e.g. Bonanno, 2004). One of the earliest studies examining this fact was conducted by Wortman, & Silver (1987). The researchers measured both positive and negative emotions through interviews in a hospital setting in a set of studies focusing on the loss of function following a

spinal cord injury, and the loss of a child to SIDS. In both cases, it was found that individuals within the first month of having experienced the loss reported experiencing positive emotions as often as they did negative emotions. At follow-up interviews 3 and 18 months post-loss, individuals reported positive emotions with *greater* frequency than they did negative emotions. Notably, these positive emotions were also rated to be just as intense as the negative emotions associated with the loss.

More recently, researchers have emphasized the idea that individuals who cope effectively with loss are able to identify positive life changes and changes to their sense of identity, as opposed to returning to previous levels of functioning. Current evidence suggests that the majority of bereaved individuals are resilient in the face of a major loss (Bonanno, 2004), meaning that 80% - 90% of bereaved individuals experience few or transient impairments due to emotional distress, and instead maintain relatively stable, healthy levels of psychological and physical functioning. The related literatures of stress-related growth (Park et al., 1996), posttraumatic growth (Calhoun, & Tedeschi, 2001), and personal growth (Hogan, Greenfield, and Schmidt, 2001) have provided some evidence that successfully coping with highly challenging, stressful, or traumatic events such as bereavement leads to positive life changes as opposed to “simply a return to baseline” (Tedeschi & Calhoun, 2004, p.4). Bereavement-specific research has described personal growth as consisting of increased feelings of compassion, caring, inner strength, and hope for the future.

Evidence for the importance of personal growth as an aspect of the bereavement process has been provided by Hogan, Greenfield, and Schmidt (2001). During the development of the HGRC, the researchers completed a content-analysis of interview and

anecdotal data to generate 6 broad categories of bereavement experience which included personal growth. An analysis of focus-group data confirmed the importance of personal growth as a factor (Hogan, Morse, and Tason, 1996). Psychometric analyses and confirmatory factor analysis provided evidence that personal growth was a reliable factor of a well-developed model of individuals' grief experiences.

Hogan and Schmidt (2002) later surveyed 167 bereaved parents recruited by the National Donor Family Council. They administered the HGRC, the Impact of Events scale (a measure of posttraumatic stress symptoms, divided into "intensity" and "avoidance") and the Inventory of Social Support. Using structural equation modeling (SEM), the researchers were able to test competing models of causality between these variables in order to determine which model best fits the data while maintaining parsimony. They found that although grief and personal growth are inversely related, individuals who cope through a process of avoiding intrusive reminders of the deceased are able to reduce their grief symptoms and report feelings of personal growth. Put another way, the pathway from grief to growth with the best model fit involved "grief leading to intensity, intensity leading to avoidance, avoidance leading to social support, and social support leading to personal growth" (p. 627). Although the sample size of the study was relatively small for the use of SEM, and the results may not generalize to other types of bereavement (e.g. spousal, young adult), this does provide evidence for the importance of measuring positive outcomes when examining grief processes.

General Methodological Issues Extant in the Grief Literature

The general overview of the grief literature above provides a context for the in-depth discussion of methodological issues in the grief literature. These issues include insufficient

development of new measures for emerging grief theories, lack of validation with specific populations such as young adults, and a lack of focus on content validity when designing measurement tools. A brief discussion of the transition from psychodynamic models of bereavement to a flexible stress-and-coping framework provides further background for the discussion of these issues.

Theoretical framework. It is difficult to understand why a common human process such as dealing with the loss of a loved-one has so long been under-represented in the psychological literature, especially considering the large amount of extant information regarding the health impacts associated with bereavement. Perhaps the ubiquity of the grieving process has led to its neglect, as most adults will have directly experienced the loss of someone whom they consider to be an important significant other. Indeed Stroebe, Stroebe, and Schut (2003), summarized the issue by asking “Is it not enough to rely on human insight and clinical experience to provide the right sort of support for bereaved people and to understand grief and grieving?” (p. 235). This attitude may be the reason that theories which previously provided a framework for our understanding of grief were generally based on clinical observation and intuition at the cost of empirical investigation.

Psychodynamic theory. The study of bereavement and its effects on the human psyche in Western cultures can be traced back to Sigmund Freud’s publication *Mourning and Melancholia* in 1917 (Archer, 2008). Freud purported that the central task of a bereaved individual is to break one’s psychological attachment to the deceased through a process called *decathexis* so that the emotional energy invested in that relationship could be reinvested in new meaningful relationships. Drawing from his own grief experiences, Freud suggested that

the grieving process consists of a painful internal conflict, as the bereaved faces the reality that the loved-one is gone by reviewing thoughts, feelings, and memories of the deceased. This process became the foundation of what was later broadly termed “grief work.” Freud hypothesized that once an individual completed the grief work process, he or she would return to their previous level of functioning. Following in Freud’s footsteps, Helene Deutsch (1937) expanded the psychoanalytic viewpoint by indicating that the lack of appropriate expression of this difficult internal struggle was a symptom of pathology.

Lindemann (1944) expanded beyond Freud’s psychoanalytic theory of bereavement by examining symptoms and other consequences of grief. He interviewed and observed friends and family-members of individuals killed in a large fire, and categorized their experiences. His description of the grief experience included 1) somatic or bodily distress 2) preoccupation with the image of the deceased 3) guilt relating to the deceased or circumstances of the death 4) hostile reactions and 5) inability to function as competently as they did prior to the death. Hagman (2001), identified several common features that have become part of the elaborated psychodynamic model of grief, including the following ideas: 1) there is a normative way to grieve, 2) grief functions to restore rather than transform 3) grief is a private, intrapsychic process rather than a social or cultural one, 4) suppression of affect during the grieving process will lead to pathology, 5) mourning is painful and sad rather than involving a range of affects, and 6) normal grief results in a return to premorbid functioning. Through the work of Deutch and Lindemann, psychodynamic theory, although elaborated by later writers, provided the framework for the psychological understanding of grief for over six decades. It influenced later stage and attachment theories (Bowlby, 1969; Kubler-Ross, 1969; 2007) and formed the basis for various grief inventories and other assessment tools currently in use (e.g. *the Texas*

Revised Inventory of Grief, Faschingbauer, 1981; *Core Bereavement Items*, Burnett et al., 1997).

Stage models. Stage models, as discussed above, have long been used as a heuristic for the clinical practitioner and the lay-person in understanding how individuals grieve. Although it is attractive to believe that the way that an individual will react to a loss is predictable and circumscribed, contemporary grief theories and the studies that support them have painted a far more idiosyncratic picture of the grief experience. While the earliest stage models can be attributed to Bowlby (1969), the most popular and influential is that posited by Kubler-Ross (1969). Originally developed to describe how a dying individual relates to his or her own impending demise, her model was readily applied by the lay-person and clinician alike to describe the grief experiences of the bereaved (Holland, & Neimeyer, 2010; Maciejewski et al., 2007). According to Kubler-Ross, individuals go through five stages: denial, anger, bargaining, depression, and acceptance. One can see how this path is in accordance with the psychodynamic idea of an initial period of distress followed by a return to normative functioning.

Task models. Worden (1982, 1991), introduced a similar model of bereavement which he termed a task model. In Worden's usage, *tasks* differ from stages, in that individuals may complete these tasks in any order. Based on anecdotal evidence and clinical experiences, he hypothesized that individuals must: 1) accept the reality of the loss, 2) experience the pain of grief, 3) adjust to an environment that does not contain the lost loved-one and 4) to emotionally relocate the deceased and move on with life. He further stated that the grieving process is complete when one can "think of the deceased without pain" and

“reinvest his or her emotions back into life and in the living” (p. 18). While Worden’s (1991) conceptualization of the grief process does allow for individual differences in the grieving process, and emphasizes “the wide variety of behaviors covered under normal grief” (p. 30), it varies little from Freud’s (1917) model in terms of its basic assumptions. For example, Worden takes for granted that the bereaved must experience significant emotional distress during the “normal” grieving process, and considers decathexis to be the end-point of the grief journey.

Challenges to psychodynamic and stage/task models. Recent longitudinal research has demonstrated that most individuals do not go through predictable stages when grieving (e.g., Holland, & Neimeyer, 2010), and it has been stated that “most researchers have come to believe that the idea of a fixed sequence of stages is not particularly useful” (Wortman, & Boerner, 2007, p. 288). More generally, Wortman and Silver (1989) and Wortman and Boerner (2007) have systematically challenged the assumptions which underlie psychodynamic and stage theories. These faulty assumptions include the presence of intense distress in all cases of healthy grieving, the necessity of confronting the loss through “grief work,” and the idea that grieving resolves in a timely fashion and results in a return to baseline functioning. Current evidence suggests that the majority of bereaved individuals are resilient in the face of a major loss (Bonanno, 2004). However, the abandonment of psychodynamic and stage models has necessitated a shift to more flexible empirically-based conceptualizations to tie together research findings which focus on small pieces of the grief puzzle.

Trajectory model of grief. Based on the arguments provided above, an alternative to psychodynamic and stage models has been provided by Bonanno et al. (2002; 2008). Although this model attempts to describe different processes of grieving as opposed to explaining why individuals may have disparate outcomes, it is unique in that it has been developed empirically from data collected in a large prospective study of bereavement. The researchers analyzed data from the Changing Lives of Older Couples Study (CLOC). This study, initiated in the 1980s, recruited and followed 1,532 older adult couples. Couples completed interviews, and those who lost a spouse during the duration of the study ($N = 205$) were identified using state records, and recruited to complete further measures at 6, 18, and 48 months following the loss. Variables contained in the study included pre-loss measures of social support, marital quality, mood and wellbeing, personality, and worldviews. Post-loss assessments also included questions regarding grief, continued attachments, and attempts to work through the loss.

By analyzing levels of depression before the loss, and examining how these and other measures changed between the pre-loss assessment and follow-up assessments, the researchers were able to describe five different pathways, or trajectories of how individuals reacted to a loss over time. They were also able to provide frequency statistics describing how common each trajectory was in the sample provided. These trajectories of grief were reported as follows (Bonanno et al., 2008): 1) *common grief* (11% of the sample) was defined as those with low depression scores pre-loss who experienced an increase in depression at 6 months, but improved by 18 months, 2) *resilience* (46%) was defined as those individuals who experienced low depression at all time-points, 3) *depression followed by improvement* (10%) was defined as individuals with high pre-loss depression which decreased at 6 and 18

months following the loss, 4) *chronic grief* (16%) was defined as those with low pre-loss depression and high depression at 6 and 18 months following the loss, and 5) *chronic depression* (8%) were individuals who were high on depression at pre-loss measurements, and all succeeding time-points.

Although an in-depth discussion of all the further data that were gathered across this study is beyond the scope of the current paper, several notable facts emerge that have a bearing on future research into the grief process. First, in this sample resilience was the most common response to the loss of a loved-one, which corresponds to Bonanno's (2004) assertion that the majority of the bereaved do not experience prolonged impairments in functioning due to emotional distress. Indeed, those who had problematic marriages or expressed high-levels of pre-loss caregiver stress improved in mood following their loss. This once again demonstrates that the assumptions of the psychodynamic theories of grief are not supported by the empirical evidence. Perhaps even more importantly, this study serves as a model for the most comprehensive examination of grief process conducted to date. Gathering pre-loss data allowed the researchers to differentiate between different trajectories (e.g. chronic grief and chronic depression) that would not have otherwise been possible. It also allowed researchers to examine risk and protective factors, as well as settle questions regarding the effect of pre-loss functioning on later grief reactions. However, although this study was rigorous and provides a thorough examination of how older adults react to widowhood, it can only be generalized to other age-groups, types of loss, or relationship types (e.g. parent, sibling, friend) with caution.

Stress-and-coping theory. The stress-and coping model allows for a multitude of different reactions to loss, and provides a framework for *how* individuals may end up with different grief outcomes such as the trajectories summarized above. The loss of a loved-one (specifically a spouse) has been consistently appraised as one of the most stressful events that can occur in an individual's life (e.g. Holmes, & Rahe, 1967). The stress-and-coping approach, also known as the transactional model of stress and coping, was developed by Lazarus and Folkman (1984) to account for the ways that both cognition and behavior can have an impact on how individuals respond to a stressful event. This model posits that an individual goes through a specific process of appraisal following a loss, during which they assess the significance of the event and the resources that they have available to cope with it. In this model, if the person identifies that he or she has the coping resources necessary and is able to cope in an adaptive manner, then the stressfulness of the event is resolved.

Commonly described overarching categories of coping include approach and avoidance coping, and problem-focused and emotion-focused coping. However, factor analytic techniques on general coping checklists have yielded different categories of coping which can be organized into narrower strategies. Large inventories of coping strategies such as the empirically derived Ways of Coping Checklist (Lazarus, & Folkman, 1984), and the theoretically constructed COPE (Carver, Scheier, & Weintraub, 1989) were developed to measure the effects that different coping strategies would have on outcomes for different stressors. While these measures are meant to be wide-spectrum and useful for application with any stressor or population, more specifically targeted coping checklists have been developed as well. For example, the RCOPE (Pargament, Koenig, & Perez, 2000), a measure of the different ways that individuals may use religious beliefs and practices to cope with

stressful life events, has recently been redesigned for use with the bereaved (Lord & Gramling, 2014; Lord et al., 2015).

However, despite the clear importance of coping in the study of bereavement, relatively few empirical studies have been conducted to ascertain what coping strategies or styles are beneficial or detrimental in the context of grief (Folkman, 2001). One possible reason for this lack of research is the absence of a well-validated coping measure designed specifically for bereavement. Van Heck and De Ridder (2001) note that most bereavement studies that include coping strategies as a variable use the wide-spectrum coping checklists mentioned above, and that they may not represent the full range of coping strategies employed by the bereaved. Indeed, the use of coping checklists in research in general has come under attack in recent decades, and has been pointed out as one reason for the slow progress in that field (Coyne, & Gottlieb, 1996; Coyne, & Raccioppo, 2000; Somerfield, & McCrae, 2000).

Despite these theoretical issues, a small number of important studies have been conducted examining overall coping strategies and bereavement. Schnider, Elhai, and Gray (2007) conducted a study of coping strategies among college students reporting a traumatic loss. Participants completed self-report measures to assess their levels of PTSD and grief symptoms. The Brief COPE, a commonly used coping checklist, was used to assess the use of three types of coping strategies: problem focused coping (e.g., planning how to overcome a problem), emotion-focused coping (e.g., reinterpreting the stressor in a positive way), and avoidant coping (e.g., using denial or self-distraction). Grief severity and PTSD symptomology were found to be positively associated with all three forms of coping.

However, after controlling for years since loss, frequency of trauma, and the overlapping variance between the coping subscales, only avoidant coping was significantly related to complicated grief and post-traumatic stress syndrome. These results lead to several important conclusions that have implications for the use of stress-and-coping theory in conceptualizing bereavement. First, there is significant overlap in the usage of all three of these coping strategies among sufferers of traumatic loss. Also, avoidant coping strategies such as denial, which are reported by many individuals, may not be effective in the face of sudden or unexpected bereavement.

A study by Rogers, Hansen, Levy, Tate, and Sikkema (2005) on coping strategies and optimism in the face of AIDS-related bereavement found that active coping strategies (taking action to change or remove the stressor) were positively associated with optimism and negatively associated with hopelessness. Conversely, avoidant coping strategies (distracting oneself from or ignoring the stressor) had the opposite relationships with those two variables. However, as with Schnider et al. (2007), both active coping and avoidant coping were positively related to grief symptoms. Hansen et al. (2006) evaluated the relationship between coping skills and outcomes among HIV positive participants who had recently lost a loved one to AIDS. They found that avoidant coping strategies were significantly associated with increased grief symptoms over time, while active coping was not associated with grief symptoms.

These results highlight the problems associated with performing research on coping in the context of bereavement. A weakness lies in the use of general coping checklists which have not been validated on bereaved samples, rather than an investigation into what coping

strategies the bereaved themselves report using. Neimeyer and Hogan (2001) have noted that measurement of relevant constructs in the grief literature generally suffers from an overreliance on tools that have been rationally-derived, or not appropriately validated on populations of interest. These issues raise important questions related to the *construct* and *content validity* of the measurement tool being used, and therefore impinge upon the accuracy and generalizability of the research conducted. For example, studies using the Ways of Coping Checklist, COPE, or Brief COPE only have data on survey items which were generated and statistically examined with samples that were not specifically selected for having suffered a loss experience. There is no certainty, therefore, that the items administered are relevant to a person who is grieving, or that the survey instruments represent a sampling of all possible relevant coping strategies. This weakness in validity when using coping checklists in bereavement research suggests the need for more qualitative or mixed-method designs in order to supplement the lack of measurement tools. Indeed, it has been suggested that coping research in general diverge from the use of general coping checklists, and move toward a more process-oriented, idiographic approach (Tennen, Affleck, Armeli, & Carney, 2000). Stress-and-coping theory has long emphasized a need to focus research on specific populations and stressors (Lazarus and Folkman, 1984). Below, literature on relevant grief-specific coping strategies is reviewed.

Grief-specific coping strategies. In addition to studies utilizing coping checklists, a number of studies have been conducted examining specific coping behaviors which are theorized to influence the grieving process. These strategies or behaviors include disclosure, meaning-making, continued bonds, and religious coping. *Disclosure*, or the expressing and sharing of emotions and experiences related to loss, has been discussed as a possible method

for promoting personal growth (Hogan & Schmidt, 2002), and assisting in integrating a loss experience into autobiographical memory (Neimeyer, van Dyke, & Pennebaker, 2008). However, data to date have generally not supported an “all or nothing” view of the benefits of disclosure. One of the first evaluations of the grief-work hypothesis was conducted by Stroebe, and Stroebe (1991). They evaluated the coping behaviors of individuals who had lost a spouse at three time-points: four to seven months post-loss, 14 months post-loss, and 2 years post-loss. At the final time-point, they reported no differences between those who tended to engage in more behaviors associated with confronting the loss (e.g. disclosing feelings to others) and those whose coping styles were more avoidant (e.g. avoiding reminders of the deceased).

Stroebe, Stroebe, Schut, Zech, and van den Bout (2002) conducted two related studies to examine the utility of emotional expression to improve grief outcomes. In the first study, they used a self-report questionnaire to assess how much emotional disclosure spousally-bereaved individuals were engaging in at four points over a two-year period following a loss. This first study provided no evidence that increased emotional disclosure at any point was associated with improved adaptation to the loss. However, recognizing the weaknesses of a retrospective design, they performed a follow-up study using the Pennebaker paradigm. In this study, a sample of those who had lost a spouse were assigned to one of four conditions: a writing condition focusing on emotions, a writing condition focusing on practical problems related to the death, a writing condition focusing on both emotions and practical problems, and a control condition. No differences were observed between the four conditions on any of the measures used. Despite these negative findings in the literature, the interaction between

disclosure, other forms of social support, and grief outcomes continues to be of interest (e.g. Hogan, & Schmidt, 2002).

Meaning-making refers to the process of reconciling the meaning inherent in a situation (e.g. my loved-one has died) with an individual's preexisting framework of belief (e.g. bad things only happen to bad people; Park, 2010; Park, & Folkman, 1997). Global meanings, according to Park and Folkman (1997) consist of the beliefs, goals, and feelings that make up our general schema or orienting system about the world. Situational meaning, on the other hand, refers to the appraised meaning and significance of a particular stressful life event, including the degree of threat, the implications, and the perception of control that one has over it (Park, 2010). Other researchers have provided a variety of different definitions of meaning-making, such as the individual's subjective impression of their ability to make sense of a loss by finding an explanation for it, and the ability to find benefit from it (Davis, Nolen-Hoeksema, & Larson, 1998; Davis, & Nolen-Hoeksema, 2001; Holland, Currier, & Neimeyer, 2006).

Despite the difficulty in defining and measuring these constructs, some empirical evidence has begun to emerge, linking successful meaning-making with improved outcomes following bereavement. Davis, et al. (1998), demonstrated that participants' self-reported ability to make-sense of, and find benefit in their loss, were both associated with reduced grief symptoms as measured in a semi-structured interview. In this regard, *sense-making* refers to the subjective feeling of having integrated the loss into an existing worldview, whereas *benefit-finding* refers to recognizing positive changes that have occurred as a result of the loss (Currier, Holland, & Neimeyer, 2006). In a similar study, Holland, Currier, and Neimeyer

(2006) examined the subjective sense of meaning among a sample of bereaved college students. Their results partially replicated those reported by Davis et al. (1998), while further indicating that sense-making was a stronger predictor of low grief scores than benefit finding.

Another study in this vein evaluated the importance of meaning-making by testing the meditational role that it plays in the relationship between the circumstances of a loss and the intensity of grief symptoms following the loss (Currier, Holland, & Neimeyer, 2006). A sample of bereaved college students was administered a grief severity questionnaire, a single item assessing the ability to make sense of a loss, and a questionnaire regarding the circumstances of the loss. The researchers compared the grief reactions of those who had suffered a traumatic loss (homicide, suicide, or accident) to those who had suffered a natural loss due to an expected illness and found that the higher levels of grief severity in the traumatic loss group were partially explained by the self-reported ability of the participants to make-sense of their loss.

Religious Coping refers “the use of religious beliefs or behaviors to facilitate problem-solving to prevent or alleviate the negative emotional consequences of stressful life circumstances,” (Koenig, Pargament, & Nielson, 1998, p.513). One of the primary methods that individuals use to make meaning from and cope through a loss experience is to draw on religious practices, beliefs, and faith (McIntosh, Silver, & Worman, 1993; Frantz, Trolley, & Joel, 1996). Making meaning during existentially trying times has been suggested as one of the five primary functions of religion (Pargament, Koenig, & Perez, 2000) and qualitative evidence suggests that the bereaved tend to rate religious or spiritual resources as one of the most important methods for coping with the death of a loved-one (Seah, & Wilson, 2011).

Although there have been relatively few studies of the impact that different types of religious coping can have on grief, a recent meta-analysis has suggested that positive religious coping (e.g. seeking God's love and care; seeking support of clergy) is associated with better psychological adjustment to stress overall (Ano & Vasconcelles, 2005).

A review by Wortmann and Park (2009) on the impact of variables related to spirituality and religion on bereavement outcomes suggested a generally positive relationship between religiosity, church attendance, religious coping, and post-loss adjustment. One criticism of the bereavement literature is that studies tend to view religion as a dispositional measure (Ano, & Vasconcelles, 2005). In order to address the broader issue of multidimensional measurement of religious variables, Paragament, Koenig, and Perez (2000) developed a measurement tool for the religious coping construct (i.e. RCOPE) which focuses on the multiple ways that religion functions in people's lives, both positive and negative. Lord and Gramling (2014) reexamined the factor structure of the RCOPE using an exploratory factor analysis with a large sample of bereaved undergraduates. They found that participants rated a large variety of religious coping strategies, both positive and negative, as helpful, and provided evidence for the use of a truncated version of the RCOPE with the bereaved.

Continued Bonds refers to the efforts that bereaved individuals may make to feel a continued sense of presence or relationship with the deceased. Numerous studies have been conducted on different aspects of continued attachments to the deceased over the past several decades. Certainly there appears to be plentiful evidence that a continued attachment to the deceased is common (e.g. Parkes, & Weiss, 1983), particularly when defined as a feeling of the presence of the deceased, or viewing the deceased as taking the role of a watchful guardian (Klass & Walter, 2001). Indeed, in a study of bereaved partners of men who died of

AIDS, Richards, Acree, and Folkman, (1999) found that a high percentage of participants reported a continued connection to the deceased as long as three to four years post-loss (70%). However, there is some evidence that different methods of maintaining a continued bond with the deceased may have an impact on grief intensity following a loss. Field, Nichols, Holen, and Horowitz (1999) conducted a longitudinal study where interviewers rated the presence of different attachment behaviors at a time-point 6 months following a loss. The findings of this study suggested that those who reported maintaining the possessions of the deceased as they were before the loss, or who tended to use those possessions to feel comfort tended to report higher levels of grief intensity across the two-years of the study. As with all of the grief-specific coping strategies surveyed above, findings on the impact that continued attachments has on the bereaved are inconsistent and require more study.

Weaknesses in the measurement of coping strategies, such as the use of coping checklists that are not validated for use with the bereaved, has undermined the empirical study of the stress-and-coping model of grief. However, this approach does show some promise in terms of filling the gap left by the general abandonment of psychodynamic and stage models. Much of the theoretical work to date has focused on specific aspects of the grief experience (e.g. meaning-making; religious coping) without little attempt at synthesis. An elaboration of the transactional model of stress and coping developed from a review of empirical and theoretical discourse in the bereavement literature shows the most promise in terms of providing a framework for how individuals grieve over time.

Integrating grief theories: The dual-process model. In place of the general transactional model of stress and coping, Stroebe, and Schut (1999) have suggested an

alternative known as the dual-process model of coping with bereavement (DPM). The DPM was developed specifically to provide a framework for examining how bereaved individuals cope with the challenges that are unique to the loss of a loved-one, and was developed with some of the previously reviewed longitudinal research on the grieving process in mind. Rather than purporting a specific set of stages through which bereaved individuals should pass, the DPM suggests two general types of coping which individuals are expected to oscillate between at an idiosyncratic rate: loss-oriented coping and restoration-oriented coping. Loss-oriented coping refers to directly dealing with the emotional consequences of the loss itself, including the bereaved persons need to focus on, process, and integrate the loss. This concept is most closely related to the concept of emotion-focused coping in that the individual is focusing on and coping with the emotional reality of the loss. Restoration-oriented coping, on the other hand, refers to the bereaved individual's need to cope with stressors that arise from, but are secondary to the loss itself, such as forging a new identity, developing new relationships, and creating new life goals. These coping efforts might be considered active, or problem-focused. However, exploring the feelings associated with experimenting with new identities and relationships may not be strictly "problem-focused." There is no set pattern for attending to each of these two orientations that is considered normative, rather, each bereaved person is expected to cope with each aspect of the model in a unique way. Notably, the DPM is not a reaction against Lazarus and Folkman's (1984) transactional model, but rather represents a model of coping that focuses on the specific needs of the bereaved rather than being generalizable to all stressful situations.

Although the DPM is relatively new and offers a unique challenge to researchers by suggesting that the coping strategies of the bereaved should change over time, at least two

studies have been conducted to evaluate its appropriateness. Specifically, a recent longitudinal study investigated the use of loss- versus restoration-oriented coping by 219 couples in dealing with the death of a child (Wijngaards-de Meij, et al. 2008). Researchers developed a brief measure specifically for this study to evaluate the use of each type of coping with each of the members of the couples in the study. The scale consisted of three items theorized to measure loss-oriented coping (e.g. “I dwell on my sorrow”), and four items theorized to measure restoration-focused coping (e.g. “I am trying to go on with my life”), each of which was responded to on a five-point scale (p. 34). The researchers found that loss-oriented coping was predictive of negative psychological adjustment, whereas restoration-oriented coping was associated with positive psychological adjustment. Participants also became significantly less loss-oriented over time. Additionally, having a partner high in restoration-oriented coping predicted positive outcomes for men. However, this study did not provide evidence that oscillation was an essential component of the coping process, and the scale developed to measure the constructs of loss- and restoration-oriented coping was derived rationally (i.e. based on the expertise of the authors) rather than empirically (i.e. derived from the reports of participants and subjected to factor analysis) and thus may not have tapped into the full range of coping strategies that could possibly fit the model.

Bennett, Gibbons, and Mackenzie-Smith (2010) conducted a second study intended to explore the utility of the DPM. A sample of 90 widowed older-adults (aged 55-95 years, with an equal number of men and women) were administered semi-structured interviews inquiring about demographic characteristics, what life was like prior to the loss, what life was like at the time of the loss, how things were one year after the loss, and how they felt about the loss now. The questions were often framed to ask what a typical day was like in terms of feelings,

support, and activities. The interviews were then coded line-by-line and the codes that were relevant to the DPM were categorized into nine different loss-oriented categories, and nine different restoration-oriented categories. Outcomes were assessed by expert analysis of each total interview. Results indicated that the majority of individuals reported engaging in both loss- and restoration-focused coping (87%) and were therefore possibly oscillating as suggested by the DPM. Unfortunately, the researchers in this study did not use the retrospective time-points covered in the interview to attempt to measure how coping attempts changed over time. However, this study does demonstrate that the types of coping described in the dual-process model are commonly reported among the bereaved, and it suggests the potential for the future use of qualitative analyses in evaluating the coping attempts of the bereaved across the grieving process.

The DPM, described above, was developed as an overarching framework for describing the grief process. Stroebe, and Schut (2001), two of the original developers of the DPM, have discussed how the process of oscillation between the two types of coping described in the model can encompass other descriptions of grief which may only capture one aspect of the grief experience. For example, meaning-making can also be used to interpret the DPM, and the DPM may serve as a good way to examine *how* individuals go about attempting to make meaning when meaning needs to be made. Those engaged in loss-oriented coping may positively reinterpret the event, shift their beliefs about the justice of the world (e.g. change from “good things happen to good people” to “higher powers work in mysterious ways), or seek out a subjective sense that the loss fits into their life story. Those engaged in restoration-oriented coping, on the other hand may need to reevaluate their relationship goals, set new priorities, or reevaluate their identity and how it fits into society at large. However,

despite the strengths of the model, it has yet to be thoroughly examined in the research literature, and the findings from the two studies discussed above may not generalize to all bereaved individuals.

Specific Populations: The Need for Developmentally Informed Research

As described above, grief research has traditionally focused primarily on samples of middle to late adult widows and widowers (Hardison, Neimeyer, & Lichstein, 2005). More recently, subfields have begun to focus on other populations, such as parents who have lost a child (Bohannon, 1991; Gilbert, 1992; McIntosh, Silver, & Wortman, 1993; Schwab, 1990; Swanson, Pearsall-Jones, & Hay, 2002; Thearle, Vance, Najman, Embelton, & Foster, 1995) and children who have lost a parent or a sibling (e.g. Hogan, & Desantis, 1996). However, the generalizability of the findings of these studies to other special populations is in doubt, as different age-groups tend to experience different types of loss (e.g. college students most commonly report losing a friend or grandparent to illness; Balk et al., 2010).

Overview of emerging adulthood. Arnett (2000), in a seminal article, defined emerging adulthood as a stage of development between the late teens and late twenties, focusing on ages 18-25. Borrowing from components of a variety of developmental models (e.g. Erikson, 1979; Levinson, 1978; Keniston, 1971) he proposed this new stage of development based primarily on societal changes such as the increased frequency of higher education. Emerging adulthood is a stage of transition during which young adults are dealing with the increased independence of being legally adults and before they are saddled with the responsibilities that often begin in adulthood (Arnett, 2000). This stage is also characterized by “identity explorations” (e.g., crucial choices in the areas of love, work, worldviews),

“instability” (e.g., changing romantic partners, jobs, educational directions, living arrangements), “feeling in-between” (e.g., time of feeling that they are no longer adolescents, but not quite yet adults), “possibilities” (e.g., time when people are most hopeful regarding the achievement of future goals), and “self-focus” (Jensen, 2011). Though not all individuals within this phase of development might be classified as “college students”, the majority (e.g., over 60%) within America today enter higher education after high school graduation (Arnett, 2004) and college student life could be considered prototypical of the challenges faced by emerging adults.

Grief among undergraduate emerging adults. To date, there has been a dearth of research conducted on emerging adults, and many of the studies that use emerging adult samples use them as convenience samples. This is particularly troubling given the evidence that a large percentage of emerging adults on college campuses have experienced a recent loss. Indeed, Balk (2008), when surveying the opinions of clinical and counseling psychology professors, found that grief was considered “a defining issue” for undergraduates (p. 6). Data from convenience samples suggest that rates of bereavement among students may range from 28% (Lagrand, 1985) to 40% (Currier, Holland, Coleman, & Neimeyer, 2006) when screening for losses within the past 2 years. More recently, Balk et al., (2010) collected a random sample of 118 students on a college campus, and reported that 30% had experienced a significant loss within the past 12 months, which increased to 40% when considering losses within the past 2 years. An intensive longitudinal study of 994 undergraduates performed by Balk (1997) established the types of losses commonly experienced by undergraduates. The majority of students reported the loss of a grandparent or friend (81.8% and 59.8% respectively), while 20% reported the loss of a close family member. The most commonly

reported reasons for the deaths were accidents and illnesses. These types of losses are far less represented in the literature than are conjugal bereavement and loss of a child.

Though bereaved persons are often resilient Bonanno (2004), this population may be particularly at risk of developing poor physical and psychological health outcomes (e.g. Fisher, Murray, & Frazer, 1985). Emerging adults are particularly vulnerable as they are away from their primary social support, adjusting to a different lifestyle, and transitioning into a different societal role (Pennebaker, Colder, & Sharp, 1990). Cognitive studies have also demonstrated an important feature of emerging adults such that they are more sensitive to negative emotional stimuli than older adults (Tanner & Arnett, 2009).

Some evidence suggests that bereavement among college students may influence academic performance and college dropout rates, and some studies indicate particular challenges for college students when facing bereavement on a college campus. Balk (2001) provides case reports suggesting that bereavement negatively affects student's grades and increases the likelihood of dropout. At least one study has pointed out problems with studying due to an inability to concentrate as consequences of bereavement (Balk, & Vesta, 1998). These findings have been replicated objectively by Servaty-Seib, and Hamilton (2006). The researchers compared a sample of 227 bereaved college students to a matched, non-bereaved control group. Their results indicated that the bereaved show significantly impaired academic performance in the form of decreased grade-point averages, particularly during the semester in which the loss occurred. Additional issues, such increases in rates of insomnia, have also been reported (Hardison, Neimeyer, and Lichstein, 2005). Balk (2001) suggests that college campuses can be a particularly lonely and alienating environment in

which to grieve. College students are often alienated from their primary support groups, sometimes for the first time. Additionally, there is evidence that peer-support for the bereaved is often perceived negatively (Balk, 2001; Balk, & Vesta, 1998).

There is also some limited data on the possible positive effects of bereavement amongst emerging adults. For example, it has been found that bereaved adolescents and young adults (some of whom fall into the emerging adult age-range) score higher on measures of maturity than do their nonbereaved peers (Offer, Ostrov, & Howard, 1981; Offer, Ostrov, Howard, & Atkinson, 1988). Studies performed by Hogan and various colleagues also demonstrate the potential for growth after loss in this age-group (Hogan & Balk, 1990; Hogan & Desantis, 1992; Hogan & Greenfield, 1991; Hogan, & Schmidt, 2002). Oltjenbruns (1991) performed a qualitative study on the positive effects of bereavement on adolescents and young adults (aged 16-22) and found that 89 of 93 participants reported positive outcomes as a result of their loss.

Given the above data, it is notable that few measurement tools have been developed specifically for use with bereaved college students. Given the unique challenges that the bereaved face during emerging adulthood in general, and on college campuses in particular, the content validity of traditional measures of coping should be questioned when used with this population.

Measurement issues. Neimeyer and Hogan (2001), in a review of the measurement tools in use in the grief literature have stated that “Although the human experience of bereavement has often been studied, it has not often been studied well.” (p. 110). They point out that most studies make use of rationally-derived scales which have no validity data for the

specific populations being surveyed. The current state of research on the DPM is an excellent example of this. Although it is a promising theory of how individuals cope with grief over time, it has only been assessed by ad-hoc measurement tools containing either rationally derived (Wijngaards-de Meij, et al. 2008) or insufficiently validated (Bennett, Gibbons, & Mackenzie-Smith, 2010) items. As social science research can only be as accurate as the measurement tools used to conduct it, the results of these studies must therefore be interpreted with caution. With regard to the lack of research on emerging adult grievers, the methodological issue at play largely boils down to questions of *construct* and *content validity*. Stated another way, when asking bereaved college students questions through interviews or with survey instruments, one must be careful to ask questions which both represent the construct one is trying to measure (e.g. loss-oriented coping) and also thoroughly assess the content that is relevant to the population being questioned.

It has been suggested that coping research diverge from the use of large nomothetic methods and general coping checklists, and move toward a more process-oriented, idiographic approach (Tennen, Affleck, Armeli, & Carney, 2000). The process-oriented approach is defined by Lazarus and Folkman (1984) as the measurement of mediational variables at various time-points throughout the research process, as well as examining both the immediate and long-term outcomes associated with those variables. In the case of bereavement, they suggested that the understanding of how individuals cope with grief necessitates both “microanalysis of grieving by giving attention to the daily encounters of living” as well as “macroanalyses of the total pattern throughout the total course of bereavement.” (p. 298). While much has been learned from the survey studies conducted to date, critical questions, such as how coping processes work, and to what extent they impact stress have remained

unanswered (Somerfield, & McCrae, 2000). This problem is mirrored in the bereavement literature, where a reliance on coping checklists that have not been validated on the populations of interest, has left the field with little empirical evidence regarding how individuals cope adaptively with grief, or how they make meaning in stressful situations.

Scale development and mixed-methods designs. The importance of using qualitative methods when measuring new theoretical constructs has been noted by Vogt et al. (2004). Neimeyer and Hogan (2001) in particular have advocated for the use of combination of qualitative methodology for scale development, coupled with rigorous quantitative evaluation of the resulting items. Many researchers interested in coping processes and how they relate to grieving have emphasized the use of narrative methods and therapies when researching and treating individuals suffering from a loss (e.g. Gilbert, 2002). Wortmann, and Park (2009), in a review of the qualitative research relating to religion and meaning-making among the bereaved, suggested that further qualitative studies are needed in order to gain a better understanding of how bereaved individuals use religion to create meaning when dealing with a loss. Stroebe, Stroebe, and Schut (2003) point out that qualitative methods allow an in-depth examination of variables that are currently only theoretical in nature. This is particularly important, as stated before, in situations where no validated measurements exist. Indeed, one major reason for the need to use qualitative methods stems from the lack of reliable and validated measurement tools for meaning-making constructs and bereaved populations. However, it is important that future researchers who employ qualitative methodology use the data collected not only for the purpose of understanding the grief experiences of the sample collected, but also to generate items for measurement tools to be used in subsequent research.

DeVellis (2003) has described the scale development process in detail. He states that paramount importance be placed on content validity, or the idea that the measurement tool in question should sample from the entirety of material in the domain being measured. In other words, a measurement tool should thoroughly measure all aspects of what it claims to measure. He goes on to reflect the difficulty of assessing and achieving content validity in the case of vaguely defined variables. One problem with the use of previously developed coping checklists in the case of grief research is that it is impossible to ascertain the content validity of those scales for a bereaved population. The use of qualitative methods can reduce this problem by allowing the participants themselves (e.g. those who are attempting to make meaning following a loss) to generate the items for the researcher.

A good example of this that has been previously mentioned is the development of the HGRC (Hogan et al., 2001). By using focus groups of bereaved individuals to describe the grief experience, the researchers were able to develop a comprehensive measure that samples from multiple domains of grief experience. A second potential example can be found in contrasting the approach of Wijngaards-de Meij, et al. (2008) with that of Bennett, Gibbons, and Mackenzie-Smith (2010). While the former used rational methods to generate a small number of items to measure the components of the DPM, the latter was able to code interview data to describe nine different domains of loss-oriented coping and nine different domains of restoration-oriented coping. If Bennett, Gibbons, and Mackenzie-Smith (2010) were to go on to develop a large number of items assessing each of these domains of experience, they would have completed the first step for developing a measure of the DPM with good content validity.

Statement of the Problem

Measurement issues continue to hamper progress in the bereavement literature. These issues include insufficient development of new measures for constructs relevant to emerging grief theories, lack of validation of extant measures with specific populations, and a lack of focus on content validity. According the “Report on Grief and Bereavement Research” published by the Center for the Advancement of Health (2004), an overarching framework is needed with which to synthesize findings in the grief literature. Research into grief phenomena is currently drawn from any number of theoretical backgrounds, including psychodynamic models, stage theories, meaning-making theory, and stress-and-coping theory. Each theory has value and captures an aspect of the overall grief experience. The Dual-Process Model (Stroebe, & Schut, 1999), which is essentially a stress-and-coping conceptualization designed specifically to describe grief, shows promise as a model that can encompass disparate aspects of the grieving process. Unfortunately it has yet to be thoroughly examined empirically. The only two measurement tools available that are based on the DPM are not thoroughly designed, and have little psychometric data available (Bennett, Gibbons, and Mackenzie-Smith, 2010; Wijngaards-de Meij, et al., 2008).

Grief research, particularly from the standpoint of a stress-and-coping model, requires a developmentally-informed approach, as different age-groups may respond to loss differently. The majority of the extant research has focused on children and older adults, with surprisingly little research being conducted with emerging adults. A large proportion of college students (40%), who tend to fall into the emerging-adult age-group, have experienced the loss of someone close to them within the past two years (Balk et al., 2010). These individuals may be uniquely at risk for negative outcomes following bereavement because of

the challenges and rites of passage that face them at this time in their lives (Balk, 2001; Balk, & Corr, 1997; Bloss, 1979). Although there is some evidence that loss has important impacts on academic success and adjustment (Balk, 2001; Balk, & Vesta, 1998; Servaty-Seib & Hamilton, 2006), there has yet to be a thorough empirical exploration of the emerging-adult grieving process or its specific outcomes.

Most measurement tools currently in use with bereaved populations suffer from a lack of focus on content validity. Although there have been great strides made in measuring grief as an outcome (e.g. *Hogan Grief Reaction Checklist*; Hogan, Greenfield, & Schmidt, 2001), few psychometrically sound measures are available to assess the coping processes that bereaved individuals are hypothesized to go through. Popular checklists such as the Ways of Coping Checklist (Lazarus, & Folkman, 1984) and the COPE (Carver et al., 1989) have been used in previous research. Lazarus and Folkman (1984) described a need to “move away from global assessments toward specifics” in order to pinpoint “what it is that is being coped with,” (p. 317). The use of qualitative methods can improve content validity by allowing the participants themselves (e.g. college students currently coping with the loss of a loved-one) to generate the items for the researcher (Vogt, et al., 2004).

There is an acute need for the development of precise measurement tools designed for specific bereaved populations, based upon a sound and integrative theoretical model. The current study aimed to fill this gap in the literature by developing a self-report coping checklist for bereaved undergraduate college students, based on the Dual Process Model of Coping with Bereavement (Stroebe, & Schut, 1999). Stroebe, Stroebe, and Schut (2003) have pointed out that researchers in the area of grief must make a choice between large, cross-

sectional, retrospective survey studies, or smaller, more intensive longitudinal studies which use extensive interviewing rather than survey data. However, this seems to be a false dichotomy. A thoroughly-designed scale development process can bridge the gap between these types of analyses by employing a mix of qualitative and quantitative methods. The qualitative aspects of the process allow an in-depth examination of variables that are currently only theoretical in nature (i.e. the constructs of loss- and restoration-focused coping), while the validation process of the final quantitative instrument involves the use of large, retrospective survey methods.

The initial phase of the scale development process involves 1) deciding what it is that you want to measure and 2) the generation of items (DeVellis, 2003). A review of the literature on the DPM above has provided a firm theoretical basis for *what* is to be measured (i.e. the behaviors associated with the grieving process that are hypothesized to fall into two primary factors: loss-focused and restoration-focused coping). In generating items for later analysis, it is important to produce items that are representative of the constructs being assessed. Stated another way, item generation is a process of ensuring good *content validity*, defined as “the degree to which elements of an assessment instrument are relevant to and representative of the targeted construct for a particular assessment purpose” (Haynes et al., 1995, p. 238). It has been argued that the most thorough method of producing content validity is to consult with the population of interest (Vogt et al., 2004). This is particularly important in the study of grief among emerging adults, as no thorough empirical description of their coping efforts has yet been published. Vogt et al. (2004) have advocated for the use of focus-groups as part of the scale-development process, as they allow the participants to act as

experts who not only generate items, but also interpret the meaning of the constructs underlying them.

For these reasons, the current study employed three phases of data collection to complete the scale development process described by DeVellis (2003). During an initial Pilot Study, the researcher collected data in an informal focus-group format to assist in the development of the focus-group facilitation script and initial coding scheme. Participants were students in a special topics undergraduate psychology course focused on grief and loss. Three focus groups of 5 – 7 participants were asked general questions regarding their own experiences with loss, the way that loss has affected them and their fellow students, and how they and their fellow students dealt with loss. Feedback from participants in the pilot study was used to stream-line the focus-group methodology for use in Study 1. In Study 1, a formal focus-group was recorded, transcribed, and coded by the author using an exploratory constant-comparison method. The final coding scheme was then given to a group of two doctoral-level clinical psychology graduate students and 1 licensed psychologist with certification as a fellow in thanatology for use in item generation. A pool of 192 items was generated through use of the coding scheme, previous research, and items from a DPM scale available in the current literature. In Study 2 the resulting items were administered alongside measures of related variables through an online format. These data were partitioned randomly into two sub-samples for analysis: Sample A was analyzed using exploratory factor analysis to reduce items and generate a factor structure; Sample B was analyzed with confirmatory factor analysis to verify the factor structure. The resulting measurement tool was then compared to related variables using hierarchical regression analyses to establish validity. An in-depth description of the methods is provided below.

Summary of Hypotheses

With regard to the issues stated above, the current study aimed to test the following hypotheses, summarized below. Further information on each of these hypotheses can be found within the methodology section for the appropriate phase of the study, where they are placed within the context of the methods and data analysis procedures that were be used to test them. The page numbers provided in parentheses indicate the location of the more detailed description of each individual hypothesis. It should be noted that specific hypotheses were not developed for the Pilot Study or Study 1, as the qualitative portion of this dissertation was intended to be exploratory and inductive in nature.

Hypothesis 1. Exploratory factor analysis will result in an orthogonal 2-factor solution that conceptually matches that predicted by the DPM.

Hypothesis 2. The model developed through EFA will show a good fit to the data when subjected to confirmatory factor analysis.

Hypothesis 3. The final scale and/or its subscales will demonstrate a moderate correlation with related subscales of the Brief COPE.

Hypothesis 4. The final scale and/or its subscales will demonstrate a moderate correlation with the adaptive religious coping subscale of the Brief RCOPE for Grief, and a moderate negative correlation with the maladaptive coping subscale.

Hypothesis 5. The final scale and/or its subscales, will uniquely predict spiritual wellbeing as measured by the SWBS. It will demonstrate a positive

relationship, such that increased use of coping strategies predicts increased spiritual wellbeing.

Hypothesis 6. The final scale and/or its subscales will uniquely predict meaning-made, as measured by the ISLES. It will demonstrate a positive relationship, such that increased use of coping strategies predicts increased meaning-made.

Hypothesis 7. The final scale and/or its subscales will uniquely predict physical health as measured by the self-rated subjective health scale from the SF-20. It will demonstrate a positive relationship, such that increased use of coping strategies predicts increased physical health and decreased health complaints.

Hypothesis 8. The final scale and/or its subscales will uniquely predict grief symptoms, as measured by the ICG. It will demonstrate a negative relationship, such that increased use of coping strategies predicts decreased grief symptoms.

Pilot Study and Development of Focus Group Methodology

Prior to completing a formal focus-group study and qualitative analysis, the author took advantage of the experiential component of a bereavement course which included focus-group and discussion elements as part of the course syllabus. This opportunity allowed for: 1) training facilitators and co-facilitators 2) refining the focus-group facilitation guide 3) ascertaining the approximate amount of time needed to thoroughly complete a focus-group 4) making note of thematic elements of student discussion through post-group debriefing among facilitators and 5) getting feedback from participants on their experiences in the focus-groups.

Methods

Participants. Undergraduate students ($N = 21$) enrolled in a 5-week 1-credit special-topics “spotlight” course on bereavement (Course Title: Growing From Loss- “What doesn’t kill you makes you stronger?”) at a large Mid-Atlantic urban university were invited to participate in a pilot version of this study’s focus-groups as an optional experiential class exercise. Students elected to participate in focus-groups as one of several optional educational exercises. Twenty students completed a pre-class survey with data regarding their own loss experiences. Of the 21 students in the course, 17 elected to participate in the groups and completed a post-group survey. The resulting sample was 76% female (13 of 17 participants). Of the students who completed the pre-class survey, 45% (9/20 students) reported having lost a loved-one within the past 2 years. Half of the students reported having lost a loved-one more than 2 years in the past (10/20 students) and 40% of the students reported multiple losses (8/20 students reported both a loss within the past 2 years and a more distal loss). One student (5%) reported not having experienced the loss of a loved-one.

Measures.

Facilitation and Training Guide (Appendices A & B). The administrators of the focus group utilized a detailed facilitation guide to direct the discussion of the group. The facilitation guide utilized in the current study was adapted from principles laid out by Kreuger (1988) and Stewart and Shamadansi (1990), and formatting was modeled after a guide developed by the Center for Development Information and Evaluation (USAID, 1996). In order to avoid leading participants to generate DPM-related content, discussion topics were chosen to map onto the general transactional model of stress and coping (e.g. Lazarus &

Folkman, 1984) but do not directly reflect the coping domains hypothesized in the DPM, and facilitators were instructed not to use language specific to the DPM when eliciting participant responses. The facilitation guide divides the focus-group session into two general segments of discussion: 1) questions related to how participants' losses have impacted their lives, and 2) questions related to how participants have coped with their losses. Each segment begins with a broad question (e.g. *how has your loss impacted or affected you?*). The facilitation guide instructs focus-group facilitators to encourage interactive discussion of the broad focus-group questions initially, only resorting to prompting when either discussion loses momentum, or if participants fail to comment on specific aspects of their loss that are hypothesized to be of interest in the current study. During the second section of the focus-group, facilitators are instructed to use three layers of prompting: initially asking the general question (e.g. *how have you coped with or dealt with your loss*), then prompting for coping strategies related to the effects of loss identified during the first section of the focus-group (e.g. "what has been helpful in dealing with the academic consequences of your loss?"), and only then prompting for specific coping strategies of interest (e.g. *have you turned to religion*

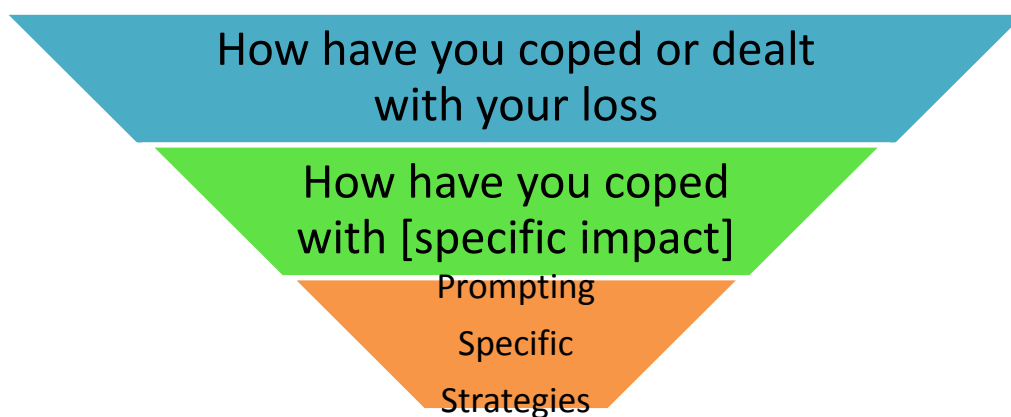


Figure 1. Hierarchy of prompts specified in the Facilitation Guide.

to cope with your loss?). Figure 1 illustrates the method of prompting developed in the facilitation guide for use by the facilitators.

Specific prompts were developed based on general knowledge of coping models from the literature and drawn from subscales of commonly-used general coping checklists (*the COPE*, Carver et. al, 1989; and *the Coping Strategies Inventory*, Tobin, 1989). Additional prompts were developed based on a review of the grief literature, resulting in questions related to meaning-making (e.g. Currier, Holland, & Neimeyer, 2006), religious-coping (e.g. Wortmann, & Park, 2009), and continued bonds with the deceased (e.g. Klass, & Walter, 2001). These statements and questions were meant to facilitate the exploration of specific areas of interest, and participants were encouraged to respond to them in depth, and to bring up other topics of discussion that they felt were relevant. The facilitation guide also included a section of guidelines for co-facilitation and post-group debriefing.

Pre-Class Survey. The pre-class survey was developed rationally by the course instructor in order to introduce students to the special topics course and collect information about the students' own loss experiences. Relevant questions were selected to inform the author about the sample who participated in the pilot study. Specifically, two questions were selected to provide data about the sample: 1) *When researchers (and clinicians) study grief reactions they usually look at two years as a critical cut-off point. Have you lost a loved-one to death within the past two years?* [yes/no response] and 2) *When researchers (and clinicians) study bereavement they often look at two years post bereavement as a critical cutoff point. Sadly, the loss of a significant loved one can be more complicated than just this 2 year point of demarcation. Which of the choices below best captures your own experience*

bereavement? [multiple choice: I have lost a loved one to death in the last two years; I have lost a loved one to death more than two years ago; I have both lost a loved-one to death within the past two years AND lost a loved one to death more than two years ago; I have experienced the loss of multiple loved ones within the past two years; I have not yet lost a loved one to death].

Post-Group Survey. The post-group survey was developed rationally to get feedback from participants regarding the educational experience of participating in the focus-groups as an experiential exercise. Selected questions from this survey were used to inform the development of the focus-group methodology used in Study 1.

Three free-response questions were used to gain insight into participants experiences in the focus-groups and their own perceptions regarding the coping strategies that were brought up during group: 1) *During the focus-group today, there was also discussion of the coping strategies that you and your peers have used or observed others using to deal with loss and grief experiences. What important coping strategies did you learn about during the focus group? Based on the discussion in the group, what methods would you say college students tend to use when coping with a loss experience?* 2) *How was the experience of participating in this focus-group? Good, bad, or neutral? Specifically, what was good about the experience and what do you feel could have been improved upon? How comfortable did you feel? What would you have changed to make the group more effective?* and 3) *These focus-groups are aimed at learning everything we can about how you and your peers experience and deal with loss, bereavement, and grief. However, it is unlikely that every important topic was covered in the group. What important questions about college student loss were not addressed in your focus-group? What do you think it would be important for researchers to include in future focus-groups of this time? What additional questions or topics would you add?*

Two yes/no questions were also used to gain quantitative insight into the participants' experiences in group: 1) *Participating in this focus-group was difficult for me* and 2) *I felt comfortable sharing in my focus group*.

Procedure. Students in the 5-week long bereavement course were invited to participate in a focus-group as an interactive experiential exercise. The focus-group experience was built into the course syllabus as one of several optional interactive educational exercises with the purpose of encouraging a discussion of students' own loss experiences. Students who chose to participate were randomized into one of three focus-groups, each led by one graduate-level facilitator, resulting in a group size of 5 - 7. The groups then met in the students' regular classroom for approximately 45 minutes. Facilitators used a facilitation guide (Appendix A) for prompts, and followed guidelines laid out in a focus-group training guide developed from a literature review of focus-group methodology (Appendix B). The instructor, who did not participate in facilitating these groups, was available in a private setting outside of the classroom to any student who chose not to participate or who chose to discontinue participation. As this was conducted as an educational exercise for the students to learn from one another, no recording devices were used, and student names and identifying information were not collected. At the end of the groups, students were invited to comment individually and privately on the group experience through an optional post-group survey. This was administered on Blackboard as part of the instructor's effort to get course evaluation data on specific course exercises and content.

All facilitators completed a brief training process that involved reading and understanding a Focus-Group Facilitator Training Manual. This manual was developed by

the researcher based upon models put forth by Kreuger (1988) and Stewart and Shamadansi (1990), and USAID (1996). Participants were encouraged to discuss questions amongst themselves as well as to discuss content beyond the domains suggested in the Focus Group Facilitation Guide. In order to avoid leading the participants to produce responses which match the DPM, no information regarding the DPM was provided to participants, and words associated with the DPM (e.g. loss-focus, restoration-focus, oscillation) were not used by the facilitators. As suggested by Kreuger (1988), immediately following the pilot study groups, the facilitators debriefed by reviewing each other's notes, and discussing and listing the content-areas suggested by the focus-group discussion.

Data analysis. In this pilot study, no formalized analyses were conducted. Rather, the facilitator of each group kept a list of handwritten notes related to 1) specific types of responses to various focus-group questions 2) quotes to use as examples for content domains, and 3) predominant themes elicited during the groups. Immediately following the groups, the three facilitators discussed their phenomenological impressions of their respective groups, as well as any similarities and differences in content of the group discussions. These discussions led to the generation of 1) a list of major themes which were common in all groups and 2) a list of domains affected by loss and types of coping strategies mentioned during the groups with quotes to use as examples.

Further information was gleaned from a phenomenological analysis of the post-group survey responses. Specifically, the author coded responses to each question with specific aims in mind. For the first open-ended question (*What important coping strategies did you learn about during the focus group?*) responses were coded into discrete coping strategies.

For the second open-ended question (*How was the experience of participating in this focus-group? Good, bad, or neutral?*), responses were coded into as “good,” “bad,” or “neutral” and were further coded for suggestions regarding how to improve future focus-groups. The third open-ended question (*What important questions about college student loss were not addressed in your focus-group?*) was coded into discrete suggestions for domains to add as prompts to the facilitation guide.

Results

Facilitator-identified thematic content. Facilitators met after the group session and discussed their written notes regarding group process and content.

Table 1. *Major themes identified by facilitators across pilot study groups.*

Theme	Description of Theme
The World Doesn't Stop	Emerging adulthood is a particularly difficult time to experience bereavement because “the world doesn’t stop for you” and “the world doesn’t care anymore” like it may when you are a child or adolescent. Students complain of increased life stress/responsibility in general, coupled with a decrease in support.
Unpreparedness	Students report feeling unprepared for the experience of loss, both from a practical and emotional standpoint. They reported feeling unsure how to respond, who to turn to for help, and how they “should” feel. For many, experiencing the loss soon before or during college was their first significant loss experience.
The Taboo	Students reported being uncomfortable sharing their loss with others, perhaps even hiding the loss from their peers. There was a perceived disconnect between having experienced a loss and pressure to act like a “fun” college student. Students also reported a general discomfort with sharing their loss with faculty.
Substance Abuse	In each of the three groups, one of the first coping strategies mentioned was increased alcohol and substance abuse. Students reported that substance use is “easy” “feels normal” and is “accepted.” Substance use was also viewed as a way to cope with emotions while maintaining the persona of a “fun” college student.
University Resources/Policy	Students report a lack of awareness about University resources related to bereavement and also vary widely in terms of preferences (on-campus vs. off-campus; peer-led vs. professional led). They also reported feeling a general stigma related to seeking mental health services related to loss. Students additionally expressed concerns related to University policy (e.g. grades, incompletes, when and how to drop classes; financial aid issues for those who withdraw for a semester).

The author facilitated discussion, collected facilitator notes, and compiled the notes and impressions into a list of overarching themes that were common across groups as well as a list of specific coping strategies and domains that came up during the group facilitation. Table 1 above summarizes the five major themes identified by facilitators as being prominent in all three pilot groups.

Common participant responses to the two phases of the focus-group process were distilled into a list of domains and specific content for use in item generation. Table 2 below summarizes the major *impacts* or *effects* that students reported as related to loss.

Table 2. *How does the loss affect students?*

<ul style="list-style-type: none"> Emotionally <ul style="list-style-type: none"> Depression Suicidal Ideation Anger/Rage Anxiety PTSD-like reactions Numbness Decreased motivation/things seem trivial Academically <ul style="list-style-type: none"> Failing grades Incompletes *Choose between performing poorly or taking time off* Deterioration in respect for some professors Avoidance of night classes Throwing self into classes and routine (coping) Relationships <ul style="list-style-type: none"> Withdrawal/Need "alone time" Bring close friendships closer Bring family together 	<ul style="list-style-type: none"> Financially <ul style="list-style-type: none"> Job loss Travel costs Loss of financial advice (if parent lost) Family finances change Loss of child support May struggle if money is going towards other coping techniques (drugs, alcohol) Health <ul style="list-style-type: none"> Drinking/Drugs Changes in eating behavior GI upset Headaches Worldview <ul style="list-style-type: none"> "changes who you are" Become more bitter/cynical Questioning religious beliefs Anger towards God
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Table 3 summarizes the content domains and specific coping strategies that students reported during the pilot groups. Quotes and notes are included which reflect the thought and discussion processes of the facilitators during the debriefing process.

Table 3. *How do students cope?*

<ul style="list-style-type: none"> • Alcohol/Drugs <ul style="list-style-type: none"> = "Pervasive" = "Normal" = "More normal than grieving" = "Numbs the pain" = "Helps you feel again" • Rituals <ul style="list-style-type: none"> = Wake = Funeral = Mass = Death Anniversary = Muslim Funeral Prayers = Mourning Colors = Contradicting/Questioning beliefs = Eating together with family • Continued Bonds <ul style="list-style-type: none"> = See rituals above = Honoring person (by volunteering in an organization they cared about or that was related to their death, such as organ donations) 	<ul style="list-style-type: none"> • Social Support <ul style="list-style-type: none"> = "Close friends keep you from sinking to depression" = "Friends will check in on your drinking" = "Best friends are key" = Family is more distant, but still important = Family comes closer together • Community/Professional Resources <ul style="list-style-type: none"> = Advisors = Some professors = Stigma against counseling = Little visibility for counseling services • Disclosure/Expression <ul style="list-style-type: none"> = Hide loss to avoid pity = Expressive writing = Art = Music • Avoidance <ul style="list-style-type: none"> = Sleeping all day = Drinking = Drugs = Throwing self into routine
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Post-group survey responses. Yes/no responses indicated that students felt generally comfortable sharing in the focus-groups (12/17 students responded yes; 71%) and only a minority of students (6/17 responded yes; 35%) felt that participating in the focus-group was difficult. Table 4 below shows student responses to open-ended questions, and how the author coded these responses for use in refining the focus-group methodology.

Table 4. *Pilot-study participants' open-ended responses and author's codes.*

During the focus-group today, there was also discussion of the <i>coping strategies</i> that you and your peers have used or observed others using to deal with loss and grief experiences. What important coping strategies did you learn about during the focus group? Based on the discussion in the group, what methods would you say college students tend to use when coping with a loss experience?	
<i>Response</i>	<i>Author's Codes</i>
Some important coping strategies I learned was turning to family and friends after a loss, especially if the person I lost was related to these people. Talking to these people and seeing how they cope with loss helps me to better cope with loss because it helps me to see that if they can get through it. Methods that college students use are turning to family and friends for mental and moral support. While others find comfort in food, and sometimes alcohol and drugs.	-Family/Social Support -Substance Abuse -Change in eating habits
We talked about a few different ways to cope, including therapy, social support and cultural differences in how people may cope. Based on the discussion, I'd say that most college students don't cope at all, but feel the need to repress and bury the emotions that accompany loss. We do this because, as we discussed, life doesn't stop moving forward after a loss. I believe there are insufficient tools available to students, and the tools that are available are difficult to find/people don't know about them.	-Social support -Avoidance -Professional services
There were several coping strategies discussed, from drug abuse to prayer, to volunteer work. I think the most common methods were drug abuse and simply becoming isolated.	-Substance abuse -Religious Coping -Behavioral activation -Social Withdrawal
My group was pretty unsure what coping strategies college students generally used so we mostly speculated. One obvious poor coping method that is rampant in the college setting is drinking. By drinking one can forget about the pain that comes with a loved one's death. Another more productive coping method is to surround yourself with family and friends so you don't shut yourself off from the world. Also it is important to remember the person that has died and to laugh and be happy in doing so.	-Substance abuse -Family/Social Support -Positive reminiscence
I learned that most students turn to their closest friends for help during times of loss. Like me, other students have also turned to writing as an outlet for coping and grief. As with many difficulties in life, alcohol is certainly a way to cope with the loss and grief.	-Family/Social Support -Expressive writing -Substance abuse

Table 4 continued

We talked about how a lot of people turn to alcohol and drugs, and how easy it is for them to do so, because they have an excuse; I didn't learn about any new coping strategies.	-Substance abuse
Some of the coping strategies included either substance abuse or refraining from substances, talking about fond memories, and talking with others (mainly family). Most college students turn to different substances such as drugs and alcohol to deal with loss.	-Substance abuse -Positive Reminiscence -Family/Social Support
I learned that there are a great number of health and unhealthy coping strategies that are more often used. In turning to others I learned that more often than not it is beneficial to turn to others or even to religion. However, partying and alcohol are easy targets for college students to turn to.	-Substance Abuse -Religious Coping -Family/Social Support
I learned that every individual is different and people cope with loss differently some would do drugs, alcohol and just not talk to anyone like de-attach with everyone and not talk to anyone. sometimes us not thinking and being busy keeps you away from thinking this stuff.	-Substance abuse -Social Withdrawal -Social Withdrawal -Behavioral Activation
I learned that it's important to talk about the loss because it's easier to deal with when you talk with someone, rather than cutting everyone off. Most college students seem to turn to drugs and drinking as a method to cope.	-Disclosure -Substance Abuse
I don't feel like I learned how to cope from the focus groups, but I noticed that we all coped in similar ways. Some turned towards destructive behaviors, some were fine to cope on their own, and some reached out for help. Drugs and alcohol were mentioned somewhat often as a way to cope	-Substance Abuse
Since i usually try to distract myself from feeling grief or loss i learned that it is more healthier to face them and essentially even cry about it in order to let go or make it easier.	-Avoidance
A good coping strategy would be to talk about it. My group came to the conclusion that if you talk about it when you feel like you can talk about, it would ease the pain. Of course it is better to wait to talk about it when you feel ready to do it because if you do it too soon, the pain could increase and you could become more depressed. A method that college students tend to use when coping with a loss experience would be that they open up to those they consider to be close friends.	-Disclosure -Family/Social Support

Table 4 continued

Some coping strategies I learned from the focus group are that talking about your loss even though it may be difficult helps and that spending time with your loved ones gives you the support you need in these situations. I believe a lot of college students tend to cope by eating, not going to class, drinking and smoking	<ul style="list-style-type: none"> -Disclosure -Family/Social Support -Social Withdrawal -Substance Abuse -Change in Eating Habits
How was the experience of participating in this focus-group? Good, bad, or neutral? Specifically, what was good about the experience and what do you feel could have been improved upon? How comfortable did you feel? What would you have changed to make the group more effective?	
<i>Response</i>	<i>Author's Codes</i>
My experience was good because I learned some healthier ways of coping. I felt comfortable because we all shared, and no one was judgemental. I would not have changed anything to make the group more effective because they were very effective.	<ul style="list-style-type: none"> -Good -No Suggestions
I enjoyed our focus group because the entire group actually participated. We talked with each other and I think Ben did a pretty good job about facilitating our discussion. I felt comfortable, and I think that as the group progressed, the other group members felt more comfortable as well. I don't have any suggestions to improve the group, because our group was awesome.	<ul style="list-style-type: none"> -Good -No Suggestions
I won't say the experience was all bad, but I feel like there could have been a more relaxed way to do it. It is very hard to expose yourself or your family, especially with stoic questions. I think I would have made the group less structured, let the people open up instead of trying to fish for an answer.	<ul style="list-style-type: none"> -Neutral -Less prompting for responses
I found it to be a positive experience. It was nice when people opened up about their own loss only because it normalized my own. My particular group only had one person who had actually lost someone during college so the rest of us were only really speculating how college students handle loss. I think because of this fact the questions posed by the facilitator could have been more modified to the groups dynamic. Overall I felt generally comfortable.	<ul style="list-style-type: none"> -Good -No Suggestions
Today's focus-group experience was beneficial. Eventually, as time moved on, all the group members began inputting their two cents which helped warm up the conversation. I felt comfortable around everyone, especially since the groups weren't too large--just enough for discussion and intimacy. Maybe the focus-groups could last a bit longer, sometimes it felt like I was speaking over someone else because I wanted to get my opinion out there before time	<ul style="list-style-type: none"> -Good -Longer time for focus-group discussion

Table 4 continued

ran out.	
It was neutral. I was comfortable just sitting there and listening and was also comfortable when I joined in on the conversations. I can't think of anything that may be approved upon or would have changed.	- Neutral -No suggestions
The experience was okay, most people did not want to speak up for most of the questions but when we did it showed everyone how we have all had different situations and dealt with them in different ways. I think the good thing was listening to the others about how they found coping to be either helpful or detrimental to their own health. I felt kind of uncomfortable at first, but was able to speak about my losses. I think being able to write down the answers we had prior to the group would have been helpful rather than being put on the spot.	- Neutral -Time to do written reflection before focus-group
Participating in this type of group was promising, but it became increasingly awkward as we all knew each other so little. I think that there generally should have been an icebreaker so that there was less discomfort between participants. I felt fairly uncomfortable because it felt as if I was required to participate no matter how much I didn't want to.	- Bad -Ice-breaker
I had a few emotions it was good because i got to really think and open up but it was also uncomfortable to open up right away and talk about the loss and what you did to cope with the loss.	- Neutral -No Suggestions
My experience with the focus group was good. Everyone in my group seemed comfortable sharing experiences. I was comfortable sharing some experiences, but I feel like I could've shared more. The only thing I would've changed about the group was one of the groups was a little loud which made it a little hard for my group to focus.	- Good -Group management
Good, was able to learn a little about how others deal with loss	- Good -No Suggestions
I am neutral. I think it's hard to open up in general, but even harder to share really personal things with people you don't know. I think the groups would be better if you didn't have to communicate face to face or if it was a group of people who really wanted to share their experiences. Overall, I have nothing bad to say about the groups.	- Neutral -Group member selection -Alternative data collection methods
This was actually a great learning experience for me I have	- Good

Table 4 continued

previously never participated in a focus group. I really appreciated that the terms of privacy was clearly read to us and that helped me personally feel more comfortable with speaking about my personal experiences. there is nothing that i can think of to make it better, but I hope we have more of them in the future.	-No Suggestions
The experience was a bit awkward in the beginning but it was good overall. It was good in the sense that we all trusted each-other with the information that we each shared. I felt pretty comfortable. I would not change anything to make the group more effective.	-Good -No Suggestions
I had a good experience in the focus group. I think it was good that we all opened up about our losses and tried to take all that we could from the activity. The improvement I could suggest would be a better variety of questions to ask it seemed like a lot of the questions related to one another. At first I wasn't that comfortable but I got more comfortable as the focus group continued. To make the group more effective I just wish every person in the group participated in the discussion and I also would like to know more about how our focus group leader deals with loss.	-Good -Self-Disclosure of Facilitator -Encourage greater discussion among all members
These focus-groups are aimed at learning everything we can about how you and your peers experience and deal with loss, bereavement, and grief. However, it is unlikely that every important topic was covered in the group. What important questions about college student loss were not addressed in your focus-group? What do you think it would be important for researchers to include in future focus-groups of this time? What additional questions or topics would you add?	
<i>Response</i>	<i>Author's Codes</i>
I think something's that I wished that could have been addressed, is how to help people who use unhealthy forms of coping.	-Add treatment element to focus-group
Make it clear that loss does not equal death.... i think that would make it easier for people to open up.	-Discuss different types of loss
Not a lot of us had experienced loss in college or knew people directly that have shown how they have dealt with loss so the questions were rather impersonal. I think if this is the case in a focus group, the questions should be reworded. For example, instead of asking how have you dealt with loss during college? or How have friends dealt with loss? ask How do you think you would deal with loss? or How do you think your friends would deal with loss? Otherwise, the group will speculate some but the conversation will die down pretty quickly. People like to talk about themselves and what they know and so keeping this in mind when constructing questions will make for a more	-Discuss participants perceptions of how peers deal with loss/rephrase questions to account for this

Table 4 continued

lively discussion. I think it would have been interesting to beyond the loss experience and more towards attitudes of college students and death. I think this would perhaps give insight into why college students cope in certain ways.	
I think we should begin to question how all faculty deal with loss, thus it will let them think about how they should react to students dealing with loss. (Not just academically, but socially as well--let the student know that the faculty are just as invested in them socially as well as academically)<div>The university counseling should be advertised better and have better resources for students and faculty.</div>	-Advertise University Counseling Services -Disseminate findings to faculty
I can't think of anything.	-No Suggestions
I felt like all of the topics were covered at least for me because it was hard for me to think back at the loss and answering some of the questions.	-No Suggestions
I can't say that I would include any other focus questions to individuals who know each other as little as myself and my classmates know each other.	-No Suggestions
I would say they should have included the age group of the loss and the relationship because sometimes these feelings are different such as for a loss of grandparent, friend, uncle, aunt it is different sometimes that could be added to the researcher study in the focus- group	-Separate groups by loss characteristics
I actually think my group touched on most of these, but I think bereavement was the least discussed. I think we mainly discussed loss and grief. Bereavement is an important topic to discuss in future groups. I think a good topic would be how different cultures deal with grief. Do all cultures deal with grief the same? or differently?	-Include prompts regarding culturally bound aspects of grieving
What aspects of your life suffered the most after your loss? (I think we only talked about school and relationships).<div>I think the questions covered most of what they needed to. </div>	-Include additional impacts of loss beyond relationships and academics
I feel like most of the things that were covered in our focus-group were important for us to know in order to learn how students deal with loss or grief as well as to help our future experiences and make them easier.	-No Suggestions
It felt like everything was touched upon.	-No Suggestions
I can't think of any questions off the top of my head that	-Add treatment element to focus-group

Table 4 continued

should have been asked. I think researchers should include exercises and other coping mechanisms to help us deal with loss.	
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As shown above, students identified multiple coping strategies as being significant topics in their focus-group discussions. A large majority of participants noted that substance abuse was a strategy that came up in group (11/14; 79%). Over half of respondents (8/14; 57%) identified family and/or social support as coping strategies that were referenced in group. Three students (21%) reported avoidance (e.g. repressing emotions) as coping strategies. Three students (21%) reported that social withdrawal came up in focus-group discussion. Three students (21%) reported self-disclosure as a coping strategy of interest. Two participants (14%) mentioned finding comfort in or turning to food as coping methods. Two participants (14%) reported religious coping (i.e. turning to religion and/or prayer). Two participants (14%) mentioned behavioral activation (e.g. staying busy or distracted with work, school, or in general). Two participants (14%) mentioned positive reminiscence (e.g. fond memories). A single participant (7%) mentioned the use of professional services (“therapy”). Finally, a single participant (7%) explicitly reported expressive writing as a coping strategy discussed in group.

With regard to the focus-group experience itself, the majority (9/15; 60%) of respondents reported a good experience in group. Of those, three suggested potential methods for improving the group experience: self-disclosure of the group facilitator regarding loss experience, encouraging participation from all members of the group, managing noise levels, and increasing the time available for the focus-group process. Five participants (33%) described a neutral experience. Of these, three provided specific suggestions for ways to

improve group: one participant reported that group composition (e.g. selecting people who are explicitly comfortable sharing their own experiences) or using an alternative method of data collection which was not “face-to-face” could improve group experience. One participant suggested providing group members with time to do written reflection before the focus-group as a method to improve participants’ willingness to share. A third participant suggested a greater use of open-ended questions as opposed to specific prompts. A single participant (7%) reported their group experience as bad due to feeling like they did not know their fellow group participants. This participant suggested an ice-breaker exercise be added to the focus-group process.

Finally, participants were asked to suggest further areas of inquiry (e.g. new domains for prompts) which were not covered in the focus-groups. One participant suggested adding a general question “what aspects of your life suffered the most after you loss.” Another participant suggested adding questions about the impact of different cultures on bereavement.

Discussion

The primary aims of the pilot study were 1) training facilitators and co-facilitators 2) refining the focus-group facilitation guide 3) ascertaining the approximate amount of time needed to thoroughly complete a focus-group 4) making note of thematic elements of student discussion through post-group debriefing among facilitators and 5) getting feedback from participants on their experiences in the focus-groups. In this regard, students in a bereavement-focused special topics course were invited to participate in focus-groups as an optional educational exercise. The groups were conducted during the students’ regular class time. Of 21 students enrolled in the course, 17 elected to participate in 1 of 3 focus-groups and completed a post-group survey. The resulting sample was 76% female (13 of 17

participants). Of the students who completed the pre-class survey, 45% (9/20 students) reported having lost a loved-one within the past 2 years and all but one had experienced at least one loss in their lifetime.

With regard to the first three aims, the pilot study was judged to be a success. Based on post-group responses from the participants, facilitators generally performed well, and the focus-group format as directed by the facilitation guide was well-received by the majority of participants. Over two-thirds (71%) of participants reported feeling comfortable sharing during the focus-group. Only a minority of students (35%) felt that participating in the focus-group was difficult. With regard to the fifth aim, when asked to describe their group experience in an open-ended format, 60% of participants reported having a good group experience, compared with 33% reporting a neutral experience and only a single participant (7%) describing a bad experience.

Students who participated in the pilot study also provided suggestions that were incorporated into the facilitation guide and/or facilitator materials. One participant suggested that self-disclosure of the group facilitator regarding personal loss experience could assist group members to feel more comfortable sharing their own loss experiences. It was deemed important to consider this suggestion, as the primary aim of a focus-group is to facilitate participant self-disclosure (Kreuger, 1988). However, examples abound in the focus-group literature of pitfalls related to poor clarification of the role of a focus-group versus a psychotherapy or support group, and being overly empathic or identified with participants has been suggested as one thing that can cause a focus-group to “lose focus” (e.g. Côté-Arsenault, & Morrison-Beedy, 2005). In this instance it was decided that facilitators would stick to the

language provided in the facilitation guide (e.g. “Sadly, everyone here has suffered a significant loss within the past two years”) without indicating whether or not “everyone” included the facilitators. However, facilitators were permitted to disclose whether they themselves had suffered a loss in their lifetime if specifically asked by participants in group.

Several participant suggestions were related to constraints specific to the pilot study. The pilot study only allowed for 45 minute focus-groups without including an “eat and greet” or introduction exercise due to the class time available to the researchers. Participants noted that the use of an introductory ice-breaker exercise and a longer time-period for focus-group discussion would have made them more comfortable sharing in group. These elements were already incorporated into the method proposed for Study 1, which allowed for 90-minute focus-groups with an “eat and greet” period and an explicit introduction where participants shared their first names, class rank, and described their most significant loss and how long ago it occurred (see Study 1 procedure below for details). One participant suggested providing group members with time to do written reflection before the focus-group as a method to improve participants’ willingness to share. This insight was added to the structure of the focus-group conducted in Study 1. Specifically, participants were provided with blank paper and writing utensils and encouraged to engage in written reflection during the “eat and greet” period if they felt it would be helpful to them.

Several suggestions, including encouraging participation from all members of the group, greater use of open-ended questions as opposed to specific prompts, and managing noise levels, did not require modifications to the facilitation guide. These elements of the facilitation guide were reemphasized to facilitators during feedback regarding participant

responses. One participant suggested adding a general question “what aspects of your life suffered the most after you loss?” This open-ended question was added to the facilitation guide for use as a summary after the specific-prompts phase of the guide. Finally, one participant suggested that using an alternative method of data collection that was not “face-to-face” could improve focus-group experiences. This suggestion was discarded due to incompatibility with the methodology of the planned study. However, it was noted that the open-ended question portion of the post-group survey yielded a greater amount of data than expected (see Table above). In this regard, the participants suggestion of considering alternative methods for collecting qualitative information in future studies has merit.

The fourth aim of the pilot study was related to the informal collection of qualitative data by facilitators in order to inform item generation for Study 2. Additionally, the researcher was surprised by the high quality of the data provided by participants who responded to the question *What important coping strategies did you learn about during the focus group? Based on the discussion in the group, what methods would you say college students tend to use when coping with a loss experience?* This question was initially included in the post-group survey as a reflection question for educational as opposed to research purposes. However, the idea of enlisting participants as interpreters of their own focus-groups in a reverse of the usual participant-observer method of inquiry appears to have been quite effective in this case. Although the author is unaware of any discussion of the use of participants as expert interpreters of their own focus-groups in quite this way, this method is very much in the spirit of suggestions in the literature for improving content validity. Vogt et al. (2004), for example, have advocated for the use of focus-groups as part of the scale-development process specifically because they allow the participants to act as *experts* who not

only generate items, but also interpret the meaning of the constructs underlying them. This methodology is also related to an emerging subset of focus-group research called “participatory” or “power-sharing” methods (Redman-MacLaren, Mills, & Tommbe, 2014). These methods are intended to lessen the interpretive responsibility of the researcher in order to avoid bias and balance the perspectives represented in the results, therefore “enhancing trustworthiness” (p. 2). However, to date these methods have generally been used to obtain participant perspectives during secondary data analysis, as opposed to having participants analyze their own focus-group data after the fact. It is the opinion of the author that the perspectives provided by students themselves on the content of their focus-groups is perhaps richer and more grounded in phenomenological experience than opinions of the researchers. However, a discussion of both is provided below.

After the pilot focus-group sessions concluded, facilitators gathered to debrief and review the notes that they took during each group. From this informal discussion, five major themes emerged that all three group facilitators identified as prominent within their respective groups (see Table 1 above). Overall, students reported feeling unprepared to cope with bereavement experiences for two different reasons. First, the independence associated with college life and young adulthood meant that “the world doesn’t stop” for students who had lost a loved-one. Stated another way, students reported feeling that for the first time in their lives they remained responsible academically, financially, and occupationally regardless of what life stressors they encountered. Second, students reported feeling generally unprepared for bereavement instrumentally and emotionally due to the fact that they may not have experienced a significant loss before in the past.

This poignant description of straddling the line between childhood and adulthood while attempting to navigate newfound independence is consistent with the literature on emerging adulthood. According to Arnett (2000), emerging adulthood is a stage of transition between the dependency of childhood/adolescence and the stable responsibilities that often begin in young adulthood. In this vein, Jensen (2011) posits that two of the key features of emerging adulthood are “instability” (e.g., changing relationships, occupations, educational goals, living arrangements) and “feeling in-between” (e.g. taking on some adult responsibilities while in other ways remaining dependent on parents). The first two themes which emerged from the pilot-study groups therefore appear to represent a unique aspect of the grief process among emerging adults in general, and college students in particular. Emerging adults may feel trapped between dealing with newfound instrumental (e.g. paying bills, maintaining grades) and emotional (e.g. sadness and yearning associated with grief) demands without yet having the experience to do so with confidence. College students have the added burden of being distant from their normal social support network. A similar theme emerged for Balk and Vesta (1998), who conducted a case study with a bereaved college student and concluded that college students “are faced with forming a stable, focused identity regardless of their circumstances” (p. 25).

Students also described feeling that aspects of the University environment, both social and administrative, were not conducive to effective coping. Students in all three groups described a “taboo” of sorts related to expressing negative emotion in general, and disclosing grief experiences in particular. Students attributed this to feeling pressured to act in a way that they perceived to be consistent with the role of college student, which they described as meaning “fun.” This pressure to act in a way consistent with a consensus identity is consistent

with Jensen's (2011) assertion that identity exploration is a core aspect of emerging adulthood. It is also consistent with Balk and Vesta's (1998) observation that "campuses are driven by competing demands to produce, stay on task, and have fun." (p. 25).

Students also reported a pattern of feeling that the University itself was unsupportive toward bereaved students in terms of services available, academic or financial support, and in terms of students' ability to understand and navigate University policy. It was also clear from these focus-groups that's students vary widely in their awareness of University resources for emotional support and counseling. Students also varied widely in their stated preferences for bereavement support, with some students reporting a preference for off-campus services and others preferring on-campus services. A similar dialectic emerged between desires for professional versus peer-support services. These student concerns are consistent with the literature on student deaths and University preparedness for tragedy. Balk (1997; 2001) has repeatedly suggested that formal and visible services for bereaved students are both appropriate and necessary on college campuses. He has further suggested campus-wide initiatives geared toward building awareness regarding how common bereavement is and to provide education for college students on how to respond to the needs of their bereaved peers. That last point is particularly salient, as some student responses to the post-group survey consisted of suggestions for changes to University policy as opposed to suggestions for changes to the current study. One student, for example, wrote "The university counseling should be advertised better and have better resources for students and faculty." Two other students responded "I think researchers should include exercises and other coping mechanisms to help us deal with loss" and "I think something's [sic] that I wished that could have been addressed, is how to help people who use unhealthy forms of coping." Clearly at

least some of the students in our Pilot Study were expressing a need or desire to be better equipped to manage their own grief experiences and those of their peers.

These responses provide at least anecdotal support to Balk's (2001) suggestions in the literature. They also support the guidelines provided by Wrenn (1999), who suggested that Universities supply education regarding the grieving process, how to respond to loss, and also a visible and specific place on campus where students know that they can seek out support and information. Based on this theme, an additional question was added to the focus-group facilitation guide: "Do you have any suggestions for what could be different at the University that would help with the grieving process?"

As an unfortunate corollary to the themes discussed above, participants in all three groups were noted to have mentioned substance abuse as a primary coping strategy for dealing with loss on a college campus. In fact, all three facilitators noted that the first coping strategy disclosed in their respective groups involved substance abuse of some kind. This is consistent with students' own reports on what coping strategies were disclosed in the pilot-study focus-groups. Seventy-nine percent of students who responded to the open-ended question asking "*What important coping strategies did you learn about during the focus group?*" mentioned substance abuse as a coping strategy. Quotes recorded by focus-group facilitators and used during post-group debriefing indicated that participants turn to substance use because it is perceived as "easy" and "available," "feels normal" and is "accepted." Participants also indicated that substance use allowed them to mask or suppress negative emotions and maintain their "fun" college student identities. While troubling, these results have precedents in the literature. Problematic alcohol use is a well-documented phenomena

among college students (e.g. Dawson, Grant, Stinson, & Chou, 2004) and has also been linked to trauma exposure in college populations (Read, Griffin, Wardell, & Ouimette, 2014). There is also some emerging evidence linking problematic grief reactions (i.e. Complicated Grief) to increased substance use (Prigerson, et al., 1997). However, to the author's knowledge no studies to date have focused specifically on the impact that bereavement may have on college student drinking and drug use. In this regard, these results suggest that substance abuse may be an important variable in future grief research, and may also be relevant both clinically and in terms of campus awareness efforts such as those championed by Balk (20001) and Wrenn (1999).

As alluded to above, students who participated in the pilot groups were called upon to provide their own summaries of the coping strategies that were discussed during their respective groups. These results provide a rich supplement to the facilitator-generated themes provided above. Open-coding of these responses resulted in a list of 11 coping strategies which were mentioned in at least 1 student response. As discussed above, the most frequently mentioned coping strategy was substance abuse, which clearly merits further investigation in future studies. Additionally, participants reported family/social support, avoidance/repression of emotions, social withdrawal, self-disclosure, food, religious coping, behavioral activation, positive reminiscence, psychotherapy, and expressive writing as coping strategies discussed during their focus groups.

In the context of the literature, it is notable that these insights by participants in the Pilot Study are largely consistent with the general coping literature as well as the bereavement literature. For example, the Brief COPE (Carver, 1997), contains subscales which relate

closely to many of the concepts mentioned above. Substance abuse, for example, is also a subscale of the Brief COPE, as are use of emotional support and instrumental support which relate to family/social support as described by the students in the Pilot Study. Avoidance or repression of emotion as described by the students in the current study (“I usually try to distract myself from grief or loss; “most college students don't cope at all, but feel the need to repress and bury the emotions that accompany loss”) is consistent with Denial and Self-Distraction on the Brief COPE. Religious Coping, which was mentioned by three of the students in the current study, is also a subscale of the Brief COPE. Additionally, religious coping has been suggested as a primary strategy for coping with loss by numerous authors (see Lord, & Gramling, 2014 for a review).

Social withdrawal, behavioral activation, and use of food are also coping strategies that have been represented in various ways with items on common general coping checklists (e.g. the Ways of Coping Checklist, Lazarus & Folkman, 1988). Changes in eating habits has also been noted as a consequence of bereavement among widowed older adults (Prigerson et al., 1997). Disclosure and expressive writing are commonly discussed coping strategies in the bereavement literature, to the point of being subject to some debate regarding their usefulness (e.g. Stroebe, Schut, & Stroebe, 2005). Finally, positive reminiscence, or the recall of positive memories of the deceased, has long been discussed as a common feature of the grief process (Bonanno, 2004; Folkman, 1997; Wortman, & Silver, 1987).

The Pilot Study provided evidence for the feasibility of the focus-group method developed by the researcher. The majority of participants had a good experience in group and felt comfortable sharing in the group format. Several good suggestions were provided by

Pilot Study participants for ways to improve the group experience, and these suggestions were incorporated into the methods for Study 1 where appropriate. Additionally, the data collected both formally and informally was consistent with the literature on emerging adulthood and with the stress and coping literature in general. These data, which included themes, open-codes of student responses, quotes, sentence fragments, and facilitator notes were synthesized for later use during the item-generation stage. Finally, the author would like to again note the richness of the data provided by students who responded to an open-ended question asking them to interpret the results of their own focus-groups. This take on the “power-sharing” method of conducting focus-group analyses (Redman-MacLaren, Mills, & Tommbe, 2014) has not been described in the literature to the author’s knowledge. However, students appeared adept at describing their own experiences and the experiences of their peers and produced results that are consistent with the literature on emerging adulthood and stress and coping theory. This method of analysis therefore shows promise for use in future studies with this population either as a primary method of analysis, or as an adjunct to traditional researcher-driven qualitative analysis.

Study 1: Qualitative Study and Item Generation

The aim of Study 1 was to generate a coding scheme (e.g. a list of content domains and sub-domains) for use in creating items for the measurement tool being developed. Based on the success of the Pilot Study, a focus-group methodology was deemed appropriate for use in collecting qualitative data. An additional aim of Study 1 was to supplement the literature on college student grief experiences by summarizing the responses of participants into broad themes.

The author's initial goal was to collect data from several focus-groups in order ensure sufficient sampling of the population of interest (e.g. Vogt et al., 2004). However, across two semesters of data collection recruitment efforts resulted in only a single successful focus-group with a small sample (N = 3). Recruitment issues are common in the focus-group literature, and researchers often use smaller groups as an opportunity to "produce more detailed data from each participant" (Morgan, 1997, p. 6). Given the richness of the data collected in the Pilot Study and the overall goal of Study 1 (i.e. the creation of a coding scheme for use in item generation), the combination of Study 1 and the Pilot Study was deemed sufficient for the purposes of the current study. The use of two independent phases of qualitative data collection with varied methods allowed the researchers to benefit from the broader scope of the Pilot Study in combination with the detailed descriptions of the college student grieving process presented below.

Methods

Participants. Here we have included demographic characteristics of the three focus group members:

Table 5. *Demographic information for focus-group participants*

Participant	Gender	Age	Ethnicity	Class Rank	Deceased	Cause of Death	Time Since Loss	Grief (ICG Score)
1	Female	19	AA	Sophomore	Friend	Accident	12mo	38 (+)
2	Female	18	AA	Freshman	Grandfather	Illness	22mo	6 (-)
3	Male	21	Caucasian	Junior	Father	Illness	12mo	26 (+)

Note: (+) indicates a score higher than the cut-off for complicated grief; (-) refers to a score below the cut-off; AA = African/Black American

As shown in Table 5 above, three participants completed the pre-group survey and attended the Study 1 focus-group. Participants had experienced a variety of losses and were all at different stages of their University education. Participant 1, an African American sophomore female, reported having lost a friend from the University the previous year to an accident. She also had the highest score on the ICG. Although her score was above the cut-off for complicated grief, the fact that her loss was recent (i.e. <14 months in the past) precludes her from screening positive for complicated grief. Participant 2, an African American freshman female, reported having lost her grandfather to an illness approximately 2 years prior to the focus-group (during her senior year of high-school). She had the lowest score on the ICG and was well below the cut-off for complicated grief. Participant 3, a Caucasian male, was the farthest along in his studies as a junior. He reported having lost his father to an illness approximately one year prior to the focus-group. His ICG score was also above the cut-off for complicated grief, but again his loss was recent enough that he did not screen positive for complicated grief based on the most recent guidelines in the literature.

Measures.

Demographic Information and Nature of the Loss Questionnaire (Appendices C & D). Participants were administered a questionnaire online when they registered for participation in the focus-group study. The first part of the questionnaire included questions about participant demographics and their loss experiences. Demographic items included age, gender, ethnicity, class rank, marital status, religious affiliation, and socioeconomic status. Additional items include important covariates of the grieving process that are hypothesized to influence outcomes and are commonly measured in a single-item format. These include the circumstances of the loss (i.e. *accident, illness, homicide, suicide, military casualty*; e.g.,

Matthews, & Marwit, 2003), how much time has elapsed since the loss (in months), who was lost (i.e. *nuclear family, extended family, friend, acquaintance, spouse, significant other, other*; e.g., Cleiren, 1993), how emotionally close the participants were to the deceased (*On a scale from 1 [extremely close] to 5 [not very close] how would you describe your relationship to the deceased?*; (e.g. Russac, Steighner, & Canto, 2002), how unexpected the loss was (e.g. Currier, Holland, & Neimeyer, 2006), how distressed they were by the loss when it occurred (*Realizing that the loss of someone dear remains a part of you for the rest of your life, how would you characterize your grief at the time of the loss on a scale of one [I was completely overwhelmed by the loss] to five [I was quickly able to come to terms with my loss and go on with my life]?*; adapted from Russac, Steighner, & Canto, 2002), and how much “sense” and “benefit” they have made from their loss (e.g. Currier, Holland, and Neimeyer, 2006). These items were included in a subsection with additional instructions indicating that the participant should respond while thinking of only their most recent loss. An additional question asked how many losses have occurred in the individuals’ life, and how distal each loss has been.

Inventory of Complicated Grief (ICG; Prigerson et al., 1995; Appendix E).

Participants were administered the ICG during the online recruitment process. The ICG was devised by Prigerson, et al. (1995) to assess indicators of pathological grief, such as anger, disbelief, and hallucinations. The instrument consists of 19 first-person statements concerning the immediate bereavement-related thoughts and behaviors of the client. There are 5 response options, ranging from “Never” to “Always.” The ICG’s internal consistency, as reported by Prigerson, et al. (1995), was very good; the alpha coefficient was .94. The test-retest reliability was found in the same study to be .80. In addition, this scale has a well-validated

clinical cut point. Individuals who score over 25 are considered at high risk for requiring clinical care.

Focus-Group Facilitation Guide and Training Guide (Appendices A & B). The administrator of the focus group utilized an updated version of the facilitation guide used in the pilot study in order to direct the discussion of the group. The facilitation guide utilized in the current study is adapted from principles laid out by Kreuger (1988) and Steward and Shamadansi (1990), and the Center for Development Information and Evaluation (USAID, 1996). Several general areas of interest were identified in the grief and stress-and-coping literature to help start discussion, and are phrased in terms of declarative statements toward participants and open-ended questions. These topics were chosen to map onto the general transactional model of stress and coping (e.g. Lazarus, 1984) but do not directly reflect the coping domains hypothesized in the DPM. Prompts were developed based on general knowledge of coping models from the literature, and drawn from subscales of commonly-used general coping checklists (*the COPE*, Carver et. al, 1989; and *the Coping Strategies Inventory*, Tobin, 1989). As suggested by van Heck and De Ridder (2001), this approach was supplemented by an examination of specific challenges inherent in the loss experience for the production of loss-specific prompts. Stated another way, participants are prompted not only with potential coping strategies (e.g. “how has social support helped you to cope with your loss”), but with aspects of the loss experience that they may be coping with (e.g. “what has been helpful in dealing with the academic consequences of your loss?”). These statements and questions are meant to facilitate the exploration of specific areas of interest, and participants are encouraged to respond to them in depth, and to bring up other topics of discussion that

they feel are relevant. This guide also includes a section of guidelines for co-facilitators and post-group debriefing.

Procedure. Participants were recruited through SONA systems where they completed a brief online survey consisting of demographics, variables related to their loss, and the ICG. At the end of the online survey, participants were scheduled to attend a 2 hour focus-group, including a 30 minute “eat and greet” period where the group participants were be able to get to know one another casually, and were be provided with snacks and beverages. Kreuger (1988) and Steward and Shamadansi (1990) have suggested that sharing a meal or a similar warming-up period serves to increase the comfort level among participants, and therefore make them more likely to share their opinions and experiences freely. Based on suggestions generated by participants in the Pilot Study, participants in Study 1 were also provided with paper and writing utensils and encouraged to engage in reflective writing about their loss if they wished to do so. After the 30 minute “eat and greet” the moderator of the group administered an informed-consent sheet, briefed participants on the focus-group format, and lead the group through formal introductions and focus-group discussion.

The moderator was the author, a clinical psychology doctoral candidate who is familiar with the clinical aspects of grief work, as well as the research literature. The moderator attempted to take an empathic, objective stance and follow the guidelines suggested by Vogt et al. (2004). The group was co-facilitated by a doctoral-level Clinical Psychology graduate student with experience in bereavement research. Facilitation followed the guidelines described in the Facilitation Guide developed during the pilot study (see

above). The focus-group was audio-recorded using an Olympus audio-recording device, and the co-facilitator took handwritten notes in case of recording-device failure.

Data analysis. The focus-group data were analyzed using a transcript-based procedure for added rigor (e.g. Onwuegbuzie et al., 2009). The author transcribed the 90min focus group in its entirety based on a review of the audio record. The transcript was then coded using a three-stage constant-comparison analysis framework as described by Leech and Onwuegbuzie (2007). During the first stage, sometimes referred to as “open coding” (Onwuegbuzie et al., 2009, p. 5) the author divided the transcript into “chunks” or meaningful units. Specifically, each participant statement was considered a single meaningful unit unless it could be broken down into further sub-statements. The author then provided a descriptor to each unit. During the second stage (“axial coding;” p.5) the author grouped the descriptors into larger categories which were then refined into themes during the third stage. An additional final product of this process was the development of a coding scheme which consisted of the higher-order axial codes lower-order open codes along with detailed descriptions of each (see figure below). This coding scheme was distributed for use in item generation for Study 2 (see below). The structure of the focus-group also allowed the author to specify which themes were produced spontaneously (i.e., in response to an initial open-ended question) and which were generated in response to specific prompts. These results were synthesized with the results generated in the Pilot Study and were distributed to researchers for use in the item generation process.

Results

Coding scheme. The coding scheme developed through the constant-comparison process is presented in Figure below. The full 28-page transcript with codes indicated is available upon request. Based on an initial reading of the focus-group transcript, additional parameters were added to the coding process in order to ensure reliability. As stated above, the unit of measure (i.e. what was judged to comprise a meaningful unit) was initially assumed to be each individual participant statement. Statements were then broken down further into multiple meaningful units if participant responses appeared to clearly include more than one content item. Participant responses to facilitator clarifying questions were coded only if they differed in content from the participant's initial statement which preceded the facilitator's question. Otherwise they were coded with a (+) to indicate that the participant confirmed the previous code or a (-) if they disconfirmed it. This method served to keep participants confirmation of their own past statements from inflating the frequency count for that code.

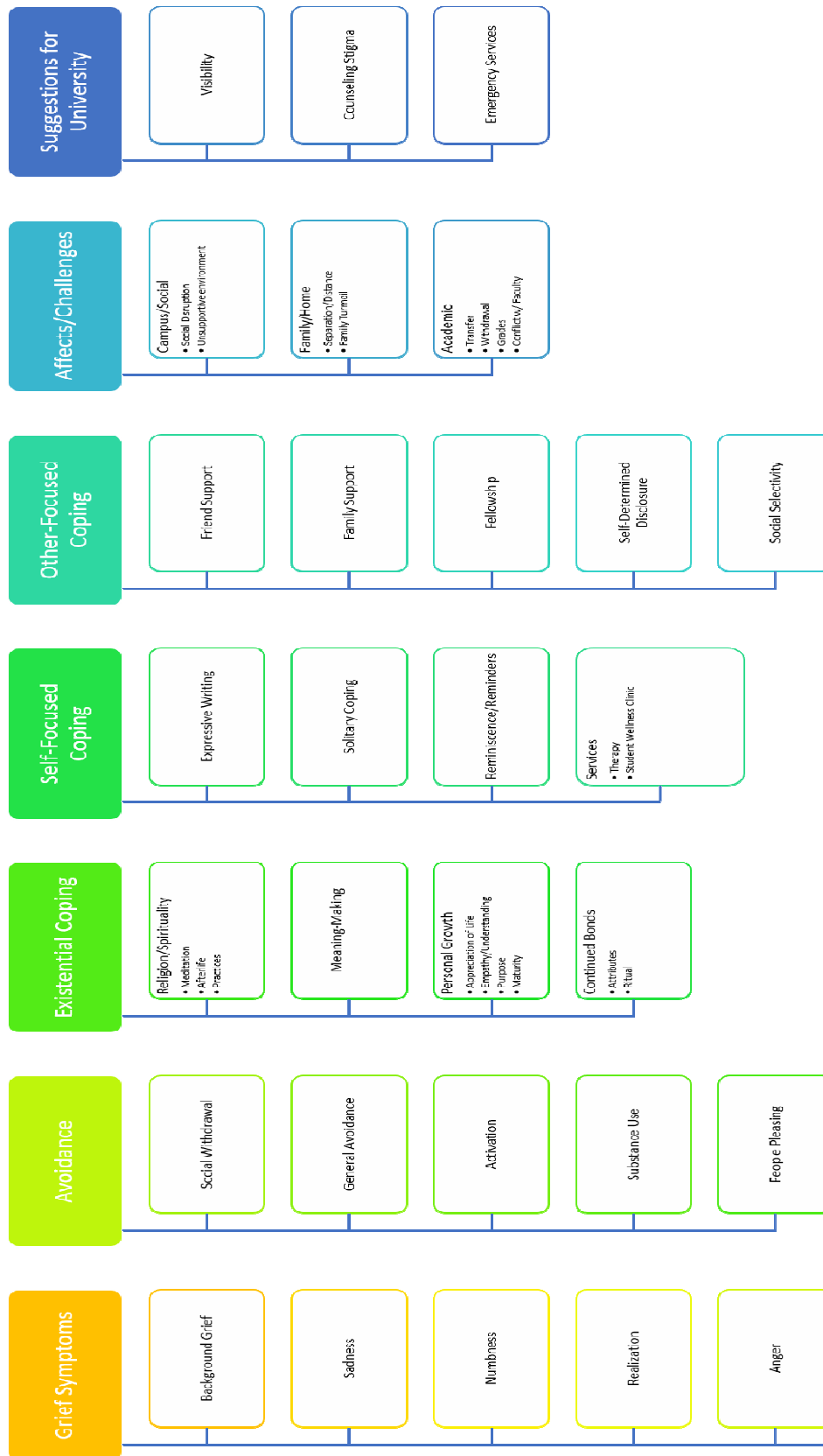


Figure 2. Coding scheme developed in study 1.

Themes. Below are the overall themes distilled in stage 3 after axial coding:

Avoidance and self-focused coping. Participants described a number of coping strategies and grief experiences that the author categorized as “avoidance” and “self-focused coping” as some were solitary experiences and others explicitly involved avoiding others, memories, or triggers for memories. For example, the first response from a participant when asked generally what impact their loss has had on them was “I guess that would kind of play out to kind of the social life, it’s almost like a social cut line.” The respondent, Participant 3, elaborated “if it’s on your mind heavily, you know, it kind of runs into the way of having a nice, better social life.” Participant 1 also reported “I don’t talk to a lot of people that I used to on this campus anymore...” during the open-ended phase of the focus-group. Social withdrawal was a prominent theme throughout the focus group, particularly for Participant 1 and Participant 3 (who each happened to have higher grief scores than Participant 2). For example, Participant 3 reported his loss impacted him by causing him to “just close out, just stay home, although I’m highly extroverted.” Participant 1 also discussed more general avoidance of reminders of the deceased:

“I cut out the gym completely because like I said, she did pass away with the rock climbing. There's the little excess part of gym with the rock climbing stuff and the camping things so I know we used to go to the gym all the time and do the rock climbing wall and just being there, so I cut all of that out. I haven't been to the gym in months. I kind of go back every now and then now, but I still haven't been on the rock wall.”

Participants also described other ways of coping with the loss through distraction, such as focusing on school-work and a sense of normalcy. Participant 1 provides an example of this experience:

“...so I think it's cool that it kind of forces you to deal with it a little bit faster or just to kind of stop thinking so much about it, focus your energy on something else. You have class, you have a test, you have to make sure these people are still staying around.”

Participant 3 pointed to initially using marijuana as an avoidance strategy but then switching to behavioral activation through increasing exercise as a way that he coped with his loss. For participant 3 this was a non-linear process where he would engage in exercise sometimes, and at other times use drugs and alcohol to cope.

Aside from different avoidance strategies, participants also engaged in a number of solitary coping efforts. Participant 1 described a general form of solitary coping that involved being alone and letting time pass: “Taking one day at a time I think. I took a lot of, I took a moment to just deal with it myself and get myself to a place where I was okay with the situation.” Participants 1 and 3 both reported that different forms of expressive writing were helpful. Participant 1 reported that getting emotions down on paper in a general way, similarly to the paradigm used in the expressive-writing literature, was most helpful to her: “I mean I can't do poetry or anything, but literally just sitting down and letting your mind go and writing down whatever helps get it all out.” Participant 3 discussed how writing assignments for his human spirituality course, although not directly related to his loss in terms of content, were helpful for his grieving: “It was kind of just intuition or wisdom or I don't know. It

definitely changed with the loss. My views were able to be put down on paper.” He also discussed the use of writing in general as a coping strategy:

“After the avoidance, I just looked at it as part of the grieving process. The more you try not to think about it, the more it sticks to your head, so the fact that I looked at it that it's just part of the grieving process, it's just so like okay, well this is just part of ... then all the memories that you're able to come up with from the past, those actually fade so it's important that you either write it down or put it to long-term memory.”

In fact, all three participants discussed memories as an important part of the coping process, and honored the memories of their lost-loved one in various meaningful ways, some of which are discussed below in the Existential Coping section. A final type of coping which the author categorized as “self-focused” was the use of professional psychotherapy services. Participant 1 reported that attending group therapy was helpful to her, the other participants did not report having sought professional services. Although Participant 1’s therapy experience was group-based, it was categorized as self-focused in that it did not involve reliance on the participant’s existing social support network.

Social support: Helpful under certain circumstances. All three participants discussed different aspects of social support, some related to the family unit and many related to social support on campus. All three participants also expressed periods of feeling as though they had reduced family or social support, either due to family members being overwhelmed with their own grief, or due to feeling that others on campus could not relate to their grieving. Related to this, a constellation of experiences arose from the focus-group that the author characterized as “other-focused.” These experienced included feeling supported by

friends and/or family, but also acknowledging that support was only helpful under the right circumstances. For example, Participant 3 expressed the importance of what the author termed “social selectivity” or the ability to decide when to socialize and with whom:

“If I felt like it was really affecting my day, I would totally just stay away from everybody, but if I felt just the slightest bit okay, I would definitely go outside or see my friends or whatever, would be about socially.”

Participant 1 expressed a similar experience, but focused more on deciding with whom to socialize as opposed to when to socialize:

“In that sense I didn't hang out with a lot of people, but the people who did really know her and the people who really were affected, I think it brought us all a lot closer together. We all just related a lot and we all talked about it a lot and we spent a lot of time together, so it was like, it kind of just opened my eyes to a lot of different peoples' personalities but in another sense it made me closer to a lot of people.”

A related strategy was the importance of the ability for the participant themselves to determine if and to what extent they wished to talk about their loss. In other words, participants expressed a desire to be given space to discuss the loss (or not discuss it) on their own terms. They also expressed that being able to discuss the loss with someone who had also lost a loved-one was helpful. For example, Participant 3 highlights both of these points:

“Most of my sharing was with my friend who had lost his father, because his father was still living in the house when he had passed, so a little more abrupt for him, but we were able to come to a consensus to each other that we just, it wasn't ever really

big long discussions on it, but even the small things like just "How you doing today?" [inaudible 00:52:02] just because he could relate and understand, I felt like his advice was a lot more meaningful or worthwhile."

And Participant 1 elaborates in more detail:

"Yeah. Those are certain emotions that you're not ready to deal with yet or you don't necessarily know how to deal with, so to be able to kind of hint around it and know that they get it is just so relieving because now you don't have to take yourself to that place, you don't have to do some much; you can just kind of relax."

Overall, participants reported feeling that they benefitted greatly in the long run from different forms of social support. However, perhaps the most important thread running through these related themes was the importance of being able to seek support on their own terms, and to feel a sense of control over when to discuss their loss and when to, as Participant 1 put it, "pretend like I am just me. It's not like I'm the girl that lost her friend who's sad, I'm just [NAME OF PARTICIPANT]."

Existential coping and personal growth. Throughout the focus-group session participants disclosed experiences which the author termed "existential coping." These experiences included harnessing religion/spirituality, sense-making/meaning-making, identifying different types of personal growth, and methods for feeling a continued bond to the deceased. With regard to religion/spirituality, a single participant (Participant 3) discussed the importance of spirituality and the belief in an afterlife to his coping after his father's death:

“If I may say, that it's a very concrete separation between life and death and the fact that we still have this consciousness of death, and we have to live with it. The human spirituality class really enlightened me in the sense that there was always a possibility someone's spirit or what have you and their soul.”

He also reported that meditation was one of his primary coping strategies:

“I put a lot of concentration and meditation into that my past semester, and I feel like that really helped me out the most. Being an only child, I didn't really have anyone to depend on, I knew my mom was already struggling enough as is, so that was my way of coping about how going about it. In the long scheme, that was awesome. It helped a ton.”

Other participant's discussed the importance of subjective meaning-making in general, which manifested both as a search for meaning as described by Participant 3 (“I guess if everything's supposed to happen, what it's supposed to mean”) and as a tendency to think carefully or deeply about the world:

“Yeah, I think it gives you a different sense of perception where you just kind of take a second longer to think about something or second longer to process something where you can just. I don't know it's just a different kind of, it's like a third eye kind of thing where you just are more open, more aware of certain things.”

This idea of taking the time to think longer and process things overlapped with other benefits participants found in their losses. Specifically, participants mentioned feeling more

mature, greater empathy and understanding with others, a greater appreciation for life, and a sense of purpose. Participant 1 provides one example:

“Just being open, just being more sensitive to other people and realizing like I said before that everybody's got their own story and it all unfolds differently. I also realized that a lot of people or people are more alike than you would think. We've all dealt with different things, but we all can relate in a lot of ways.”

Interestingly, some of the participants' descriptions of growth or benefit from their losses were directly related to attempts to honor the deceased or form a continued bond with them. Participant 3, for example, discussed gaining purpose in life by internalizing his father's integrity:

“My dad's biggest life lesson story to me was integrity. That's the biggest thing that I pulled away from all of this. So the way that I look at this is if he's still around or for that matter anybody who has ever died is still around, then every choice, everything has to be or should be with the most gallant of intention or integrity or integrity of intention, I feel.”

Similarly, Participant 1 reflected on the impact that her friend had on her life, and not only used this to feel a greater sense of agency and purpose (“seeing that she left such an impact...I've looked at the situation differently in the sense that regardless of what happens or who I am, I can make a difference in somebody else's life.”) but also went through a ritual with a circle of close friends in order to feel closer to the deceased:

“...we were like, "She loved it so much, let's do it," and we got a whole team together and we did one out here in Richmond. It was really, it was just really liberating, and I think that's really helped us all just take something that she loved and put ourselves into her position which is do this Color Me Rad thing.”

Thoughts on University resources. Given the previous work by Balk (1997; 2001) and the results of the Pilot Study, participants were asked specifically what recommendations they had for the University in terms of supporting the bereaved. Participants had three major recommendations: 1) increase the visibility of the counseling resources available 2) try to find ways to reduce the stigma of using University counseling resources, perhaps by emphasizing that seeking help does not imply mental illness, and finally, 3) participants felt that there should be emergency services that students on campus can call to get help for those who are struggling with grief.

Change over time as described by participants. As hinted at above, participants appeared to be describing using different coping strategies during different periods of their grief journey across the focus-group. For example, Participant 1 described initially avoiding reminders of her friend's death and avoiding people in general as she took solitary time to process her grief. Later in her journey she was able to accept the support of others and rally her friends to complete a ritual in remembrance of her lost loved-one. Participant 3 similarly reported initially withdrawing and abusing substances as an avoidance strategy, but later finding comfort through sharing with a friend and expressing himself through writing and philosophy. In order to elaborate on these themes, participants were asked if and how their attempts to cope with grief evolved or changed over time. Participants described initially

using more self-focused or withdrawal-based coping strategies, and later being able to access social support and find it helpful. For example, Participant 1 stated:

“At first I thought distancing myself and just keeping to myself and dealing with it solo was the way to go, but over time I kind of, once I decided other people are dealing with the same things and try to relate more and allowing other people to listen to me and relate more to me. I cope that way.”

Participant 3 also noticed a similar change in his coping over time in response to that question. He stated that he initially used marijuana to cope, but later decided that it was not helpful. Participant 2 did not specifically describe how her coping changed over time, but did share a helpful personal experience which illustrates that it is important not to assume a linear progression in grief over time:

“After my granddad died, he had a car and I needed a car at the time so my dad figured it'd be a good idea to have me use that car, so he brought it back from Pittsburgh. I was thinking this is my last little piece of him with me, but then that car was really old so it broke down after a few months and I was just kind of like, "That was all I had of him," so it was kind of sad after the car broke down. It's just like that's, that's it that I had of him.”

This participant, who also reported the lowest grief score on the ICG, points out that although her grief progressed over time, she experienced an increase in sadness when her late grandfather's car broke down. The author took this into account when interpreting these

results, as the participants were not asked specifically if their coping efforts or grief experiences changed in a linear manner across time.

Item generation. Items were generated from the pool of content-domains identified during qualitative analysis. Additional items were drawn from coping scales which have been previously used in research on the DPM. These include an unnamed rationally derived measure of the DPM (Wijngaards-de Meij, et al. 2008), and an unnamed empirically-derived measure of the DPM (Bennett, Gibbons, & Mackenzie-Smith, 2010). These items were be modified as needed to make them congruent with the instruction set of the scale that is in development (see Development of the Instructions below).

The author enlisted three additional researchers with expertise in bereavement to assist in the item development process: two clinical psychology doctoral students with recent and pending publications in the grief literature, and one licensed member of the clinical psychology faculty who supervises a grief research lab and is certified as a fellow in thanatology by the Association for Death Education and Counseling. All three individuals were also involved in other stages of the current study, including assisting with focus-group facilitation in the pilot study and Study 1. The two doctoral students were provided with a PowerPoint summary of the themes and content generated during the pilot study, and were also supplied with the coding scheme developed from qualitative analysis of the focus-group conducted in Study 1. The author also provided a set of item generation guidelines (Appendix F). Consultants were encouraged to generate a wide-array of items in an effort to "cast a wide net." They were encouraged to generate items based on the materials provided and also their own knowledge and understanding of the grief literature, research and clinical experiences, as well as personal experiences.

Items generated by the two doctoral students were synthesized with items generated by the author and then presented to the faculty member who reviewed item content and

suggested further items. After the deletion of identical items and the inclusion of items from Wijngaards-de Meij, et al. (2008) a final instrument of 192 items (tentatively named the "College Grief Coping Scale" or GCOPE) was selected for further analysis in Study 2. A complete listing of the items included in the initial item pool is available in Appendix G.

Development of the instruction set. The instruction set for the proposed scale was developed based on the instructions used in the COPE (Carver et al., 1989) and Brief COPE (Carver, 1997), two widely used coping checklists. The instructions have been modified in the following ways: 1) rather than referring to any stressor, they now refer specifically to the participants' *most recent* loss, 2) the instructions specify that the participants only report on coping strategies that have been used within the past two weeks. DeVellis (2003) suggests that researchers be informed by the type of construct being measured and the purpose of the scale when choosing a timeframe. The DPM theory does not suggest a typical timeframe or frequency for how individuals oscillate between different types of coping. The two week time period was chosen as a compromise between having a sufficient time period sampled to generate responses to the measure, while sampling a brief enough time period that future cross-sectional or longitudinal research can demonstrate meaningful differences in terms of oscillation, or other changes over time in the use of coping strategies. Modifications to these instructions may be made based on any relevant results from data collection performed in future studies. The modified instructional set was as follows:

"These items deal with ways you've been coping with the death of your loved-one. There are many ways to try to deal with grief and loss. These items ask what you've been doing to cope with your most recent loss over these past 2 weeks. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it recently. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of

whether it seems to be working or not—just whether or not you've been doing it over these past two weeks. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all

2 = I've been doing this a little bit

3 = I've been doing this a medium amount

4 = I've been doing this a lot”

Discussion

The primary aim of Study 1 was the generation of a coping checklist for use in future item generation. As noted above, this aim of the study was successful in that a large pool of items (N = 192) was generated. It is notable that during the course of Study 1 it was often difficult to disentangle outcomes from coping strategies. For example, participants described social withdrawal as a prominent part of their grief experiences. In some statements these experiences were phrased as coping strategies (e.g. “At first I thought distancing myself and just keeping to myself and dealing with it solo was the way to go”) and in other statements they were phrased more as outcomes (e.g. Participant 3 describing grief as causing a “social cut line”). Similarly, it is difficult to separate personal growth as an outcome as it is posited in the literature on posttraumatic growth (e.g. Tedeschi, & Calhoun, 2004) from the coping strategy known as benefit-finding or positive reappraisal (Holland, Currier, & Neimeyer, 2006). This difficulty with separating process from outcome has been noted in the general stress and coping literature (e.g. Folkman & Moskowitz, 2004), but is particularly prominent in the meaning-making literature (Park, 2010). For these reasons, consultants were instructed to generate items without regard for whether they were worded specifically as behaviors versus outcomes under the assumptions that 1) casting a wider net in terms of item content

was preferable to arbitrarily limiting item content and 2) that the empirical process of exploratory factor analysis would act as a relatively objective method for separating items into process versus outcome if it was conceptually meaningful to do so.

An additional aim of Study 1 was to use the rich data available from the focus-group to derive a description of the college student grief experience. This experience could then be discussed in the context of the existing literature. In terms of the emotional experiences described by participants, the three students sampled in Study 1 provided descriptions that are largely consistent with the tapestry of grief as elucidated by Hogan et al. (2001) in the HGRC. Participants discussed feelings of shock, sadness, numbness, and anger. One participant also mentioned depression. In terms of the temporal nature of these feelings, participants reported both that feelings of grief lessened over time (labelled in Study 1 as “easing”) and that feelings of grief remain in the background to the present moment (labelled as “background grief”) by the author. Participants also provided some indication that grieving was not a linear process, but this was not elucidated in detail.

In this regard, participant responses as interpreted by the author seemed to conform to some aspects of the DPM, although the categories generated during the coding process did not adhere strictly to the two-factor model suggested by the DPM. Participants described an initial need to withdraw or turn inward, and a tendency to avoid reminders related to the deceased. One participant described a tendency to use substances to cope early on. Participants also described managing grief by focusing on schoolwork, exercise, or maintaining a “fun” college image. Two participants discussed family support as a part of the early stages after their loss. After this initial turning inward, students describe beginning to

seek coping resources outside of themselves and the family unit, but dealing with the challenge of an environment that seemed unsupportive. Participants appeared to seek professional and social support in situations where they felt they had control over who they were socializing with, and, more importantly, control over to what extent they engaged in disclosure. Throughout the process, participants discussed engaging in existential coping efforts, such as feeling a continued bond to the deceased, or noticing areas of personal growth.

Themes drawn from participants in Study 1 were also related to those found in previous qualitative research with bereaved college students. Seah and Wilson (2011) conducted in-depth interview with six bereaved students and generated a list of 10 strategies used to cope with loss. These strategies included sense-making, discovering benefits, adopting a positive attitude, establishing realistic expectations, engaging in activities, taking adequate rest, expressing feelings, seeking help and support from people, believing in God, and developing skills and knowledge. The results of the current study provide additional support for the idea that participants seek help and support, engage in meaning-making and benefit-finding, express feelings, engage in activities, and develop positive attitudes. However, participants in Study 1 also readily shared the more negative aspects of their experiences that appear to be absent from the results described by Seah and Wilson. For example, participants in the current study did not simply describe “adequate rest” but rather discussed withdrawing socially and even being angry with others. It should be noted that “adequate rest” as described by Seah and Wilson does appear to include features of social withdrawal, self-selecting social support, and self-determining disclosure. However, the responses by participants in Study 1 provide a more detailed exploration of the dialectic

between retreat and seeking support, and the conditions under which participants find support helpful.

The findings of Study 1 as related to social support are particularly interesting in the context of the equivocal nature of findings for social support in the grief literature. While it is an easily held assumption that support from family and friends is an important part of the grief process, not all studies find an impact of social support on bereavement outcomes, even when measured in a variety of ways and across cross-sectional and longitudinal designs (e.g. Stroebe, Zech, Stroebe, & Abakoumkin, 2005). For this reason, researchers have begun to look for moderating effects which help to explain for whom and under what conditions social support is helpful to the bereaved. For example, Nolen-Hoeksema, and Davis (1999) investigated whether those prone to depressive rumination were more likely to benefit from social support than those who were low on depressive rumination. They interviewed individuals who had lost a loved-one three times over 18 months and administered the Response Style Questionnaire as a measure of rumination. They found that those who were high on rumination benefitted from emotional support while low-ruminators did not. However, they failed to find a difference between high ruminators who reported high emotional support and high ruminators who reported low social support. The results of Study 1 paint a more nuanced picture of the role of social support among bereaved college students. Students in this study emphasized the importance of feeling that they had control over the circumstances surrounding social support. Stated another way, perhaps it is not the level of social support that determines outcomes among bereaved students, but rather the extent to which students' feel in control over who they get support from, at what times, and to what extent.

Stroebe, Schut, & Stroebe (2005) have also questioned the assumption that disclosure is helpful for the bereaved, concluding “although the support of family and friends is positively associated with well-being among the bereaved, there is little evidence that social support moderates the impact of bereavement on psychological health” (p. 409). However, they point out that most studies only assess “the quantity and not the quality of emotional disclosure among the bereaved” (p. 404). Results from Study 1 may be useful in shedding light on this debate as it applies to college students. Participants in the current study described benefitting from disclosure only under specific circumstances: circumstances where they felt that they had control over how much to disclose and to what extent. Similarly with social support, this feeling of agency over disclosure may play a role in determining how disclosure can be helpful to the bereaved.

Data from the current study also support Hogan and Schmidt (2002)’s grief to growth model of bereavement. Per Hogan and Schmidt, bereaved individuals follow a pathway of initially experiencing despair and detachment followed by avoidance. Appropriate social support then facilitates a process of reconstructing meaning and finding new meaning in life. Participants in the current study described a similar pattern in terms of emotional experience (sadness, numbness) and also described a pattern of avoidance, both in terms of social withdrawal and in terms of avoiding reminders of the deceased while early in their bereavement journeys. This was particularly pronounced among the two participants with high ICG scores (i.e. above the cut-off for complicated grief). Consistent with the grief to growth model, participants reported that accessing social support in a careful way helped with the grieving process. In their paper on the grief to growth model, Hogan and Schmidt note that “At some point during avoidance, the bereft reach a turning point where they either seek

social support, or, alternatively, others offer social support” (p. 619). The data from Study 1 suggests that there may not have been single turning point, but rather a gradual and careful exploration of the social support resources available. An alternative interpretation is that the “turning point” arrives when participants enter a situation which they view as a space where they have control over when and to what extent to receive support and disclose about their loss.

With regard to growth, participant descriptions were consistent with that described in the Personal Growth subscale of the HGRC. For example, Hogan and Schmidt (2002) describe that the final outcome of the grief to growth model is that the bereaved will “have recreated a new sense of self that is more compassionate toward others and more forgiving and more tolerant of themselves and others” (p. 620). That statement is a fair summary of what Participant 1 and 3 described experiencing as they found benefits, renewed purpose in life, and a feeling of empathy, compassion, and openness to others. However, in the current study the author was unable to disentangle personal growth as a part of the coping process (e.g. benefit-finding) from growth as a positive outcome of bereavement.

Although Study 1 was successful in generating a broad range of domains from which to develop item content for later quantitative analysis, several limitations should be addressed in future focus-group research with bereaved students. First, only a single focus-group was conducted. Vogt et al. (2004) do not provide specific guidelines but generally recommend 4 - 5 focus-groups in order to ensure that a sufficiently broad sample is selected to represent the population of interest. Given the success of the Pilot Study, it was decided that one formal focus-group was sufficient to provide evidence of the content validity of the item pool.

However, the study of college student bereavement in general would benefit from further focus-group research beyond what is useful for item generation. Another limitation of Study 1 was the small size of the focus-group and the heterogeneous nature of the sample. Hogan, Greenfield, & Schmidt (2001) used a focus-group format to assist in developing items for the HGRC. They suggested dividing participants into separate groups based on gender and type of loss in order to create an atmosphere conducive to disclosure. There was some evidence of difficulty with disclosure in Study 1, as Participants 1 and 3 (who both had grief scores above the cut-off for complicated grief) provided the majority of the responses while Participant 2 was more reserved in her responses.

Overall, the primary and secondary aims of Study 1 were met. A coding scheme was developed and applied to the generation of items for Study 2. Additionally, a general description of the college student grief journey was also distilled from the focus-group data, and the description generated appears to be both consistent with the literature, as well as providing preliminary evidence for future research (e.g. examining the importance of perceived control over social support and disclosure in determining the effect of those variables on outcomes). Based on the above, the author proceeded to Study 2, where myriad quantitative analyses were conducted on the item pool generated in Study 1.

Study 2: Quantitative Study

The aim of Study 2 was the creation and initial validation of the GCOPE. In this regard, the items generated in Study 1 were administered to a large sample of undergraduate students. This sample was partitioned randomly into two subsamples. The first subsample was used for exploratory factor analysis. The EFA procedure was used to reduce the number

of items and generate a factor structure. The second subsample was used for confirmatory testing. A CFA procedure was used to test the fit of the model generated with Subsample A to the data available in Subsample B. A number of regression models were then used to gather evidence for the validity of the instrument.

Methods

Participants. The initial sample consisted of 790 students at a large mid-Atlantic University. Students participated for research credit or extra credit in undergraduate psychology courses. Students eligible for participation in the study were at least 18 years of age and were asked to participate only if they had experienced a loss of someone close to them. Due to the overall length of the survey (approx. 300 questions), there was a concern that participants who completed the survey quickly may have been at high risk for random responding. Participants completed the survey in an average of just over half an hour ($M = 36.01$ $SD = 17.70$). Participants who were greater than 1 standard deviation below the mean in their time to complete the survey (i.e. those who complete the survey in less than 18 minutes) were excluded from analyses. This resulted in the removal of 60 cases. An additional 30 participants were excluded during missing data analysis due to having 20% or greater missing data among the primary variables of interest (items being factor analyzed from inclusion in the GCOPE). These exclusion criteria resulted in a final sample of $N = 700$ (Ages 18-42, $M = 19.57$ years, $SD = 2.47$ years; Time since loss 0-216 months, $M = 23.03$ months, $SD = 28.99$ months; 73.4% female).

Partitioning the sample. In order to accommodate separate exploratory and confirmatory analyses, the final sample ($N = 700$) was partitioned into two Subsamples

(Subsample A and Subsample B) for analysis. Cases were separated into one of the two subsamples using the random number generator available in SPSS. The resulting subsamples (Subsample A: N = 375; Subsample B: N = 325) were used for independent exploratory and confirmatory analyses respectively.

Measures.

The College Grief Coping Scale (GCOPE; Appendix G). This scale consisted of a pool of 192 preliminary items developed during the qualitative phase of this study. Items were generated from the pool of content-domains identified during qualitative analysis. Additional items were drawn from coping scales which have been previously used in research on the DPM. These include an unnamed rationally derived measure of the DPM (Wijngaards-de Meij, et al. 2008), and an unnamed empirically-derived measure of the DPM (Bennett, Gibbons, & Mackenzie-Smith, 2010). These items were modified as needed to make them congruent with the instruction set of the scale that is in development. This large preliminary pool of items was developed by a panel of three grief researchers based on instructions provided by the author. Item developers were instructed to produce items based on a) the coding scheme developed in Study 1 b) their own knowledge of the grief literature and c) personal experiences where applicable. The instruction set was developed based on the instructions used in the COPE (Carver et al., 1989) and Brief COPE (Carver, 1997), two widely used coping checklists. The instructions have been modified in the following ways: 1) rather than referring to any stressor, they now refer specifically to the participants *most recent* loss, 2) the instructions specify that the participants only report on coping strategies that have been used within the past two weeks. DeVellis (2003) suggests that researchers be informed

by the type of construct being measured and the purpose of the scale when choosing a timeframe. The DPM theory does not suggest a typical timeframe or frequency for how individuals oscillate between different types of coping. The two week time period was chosen as a compromise between having a sufficient time period sampled to generate responses to the measure, while sampling a brief enough time period that future cross-sectional or longitudinal research can demonstrate meaningful differences in terms of oscillation, or other changes over time in the use of coping strategies.

Demographic Information and Nature of the Loss Questionnaire (Appendices C & D). Participants will be administered a questionnaire at the beginning of the survey to gather demographic information and information about their loss. Items include age, gender, ethnicity, religious affiliation, socioeconomic status, the circumstances of their loss (i.e. accident, illness, homicide, suicide, military casualty), who was lost (i.e. nuclear family, extended family, friend, acquaintance, spouse, significant other, other), how emotionally close they were to the deceased, how unexpected the loss was, how distressed they were by the loss when it occurred, how distressed they are by the loss now, and how much “sense” they have made from their loss.

The Brief COPE (Carver, 1997; Appendix H). The Brief COPE is a measure derived from the original COPE (Carver et al., 1989), which has been used extensively in stress-and-coping research. The Brief COPE consists of 14 subscales, with two items each. Eight of the subscales measure presumably adaptive coping strategies and 6 focus on presumably maladaptive coping. Responses are made on a 4-point scale (1 – *I haven’t been doing this at all*; 4 – *I’ve been doing this a lot*). Carver (1997) reviewed psychometric characteristics of the

Brief COPE. It demonstrated a complex factor structure, with nine factors accounting for 72.4% of the variance. Internal consistency coefficients were acceptable, with the least consistent subscales measuring between .50 and .60. Carver et al. (1989) reported that the original COPE scales generally exhibit strong convergent and discriminant validity as shown by correlation with theoretically related constructs (e.g. self-esteem, hardiness, trait anxiety, and optimism).

The Brief RCOPE for Grief (Lord, Gramling, Collison, & Weiskittle, 2015; Appendix I). This shortened version of the RCOPE was developed by examining the factor structure of the original instrument (Pargament et al., 2000) with a sample of bereaved undergraduate students across 2 studies (Lord & Gramling, 2014; Lord et al. 2015). The researchers intentionally constrained the factor structure to fit a two-factor, orthogonal model and removed items which did not load cleanly onto only a single factor. The scale was then further reduced by retaining only those items with the strongest factor loadings. The resulting scale is 18-items long and can be split into two factors: adaptive religious coping and maladaptive religious coping. Evidence has been provided for the reliability of the factor structure as well as the predictive validity. Alpha coefficients for the subscales have been reported as strong ($\alpha = 0.95$ and $\alpha = 0.84$, respectively). The final scale taps into theorized adaptive religious coping behaviors (ARC; collaborative religious coping, active religious surrender, seeking spiritual support) and maladaptive religious coping behaviors (MRC; punishing God reappraisals, spiritual discontent, interpersonal religious discontent).

Spiritual Well-Being Scale, (Ellison, 1983). The Spiritual Well-Being Scale (SWBS) is a 20-item measure of spiritual quality of life. Items load onto two, 10-item subscales: religious well-being (RWB) and existential well-being (EWB). The religious well-being subscale evaluates one's relationship with a higher power while the existential well-being subscale evaluates life purpose and life satisfaction. Responses to declarative statements are recorded on a 6-point Likert scale, ranging from 1 = *strongly disagree* to 6 = *strongly agree*. Scores can be summed into the individual subscales or combined into an overall SWB score. Internal consistencies of $\alpha = 0.89$ have been calculated for the full-scale score used in the current study (Hammermeister, & Peterson, 2001).

Inventory of Complicated Grief (ICG; Prigerson et al., 1995; Appendix E).

Participants will be administered the ICG during the online recruitment process. The ICG was devised by Prigerson, et al. (1995) to assess indicators of pathological grief, such as anger, disbelief, and hallucinations. The instrument consists of 19 first-person statements concerning the immediate bereavement-related thoughts and behaviors of the client. There are 5 response options, ranging from “Never” to “Always.” The ICG’s internal consistency, as reported by Prigerson, et al. (1995), was very good; the alpha coefficient was .94. The test-retest reliability was found in the same study to be .80. In addition, this scale has a well-validated clinical cut point. Individuals who score over 25 are considered at high risk for requiring clinical care.

The Integration of Stressful Life Experiences Scales (ISLES; Holland et al., 2010; Appendix J). The ISLES is a 16-item measure of a positive outcome of the meaning-making process (e.g. meaning made). Individuals with higher scores on the measure have been better able to make sense and integrate traumatic experiences into their lives. The measure consists

of two subscales: Footing in the World, and Comprehensibility. It has demonstrated good reliability in both generally distressed and bereaved samples, and has been demonstrated to be predictive of general psychiatric distress, grief symptoms, and self-reported physical health.

SF-20 (Stewart, Hays, & Ware, 1988). The SF-20 Health Survey is the short form of a well validated questionnaire with several subscales of physical and mental health (*SF-36*; Ware, Kosinski, & Gandek, 2000). The SF-36 scales have been shown to have strong internal consistency in a number of past studies. Predictive studies of validity have linked the SF-36 scales to important outcomes such as use of health care services, depression, loss of employment, and mortality (Ware, 2004). The General Health subscale of the SF-36 has demonstrated good internal consistency as a unitary measure of self-reported physical health in previous research on grief (Holland et al., 2010). The 20-item short-form has been psychometrically examined with a sample of 11,186 medical patients as part of the Medical Outcome Study (MOS). It consists of four subscales: physical functioning, role functioning, mental health, and health perceptions. It also includes a pain rating for the past month and a single-item measure of social functioning. Alpha coefficients for the multi-item subscales range from 0.81 to 0.88. The instrument has been shown to predict physical and mental health outcomes among individuals with psychiatric disorders (Wells et. al, 1989; Cooke et. al, 1996) in addition to medical outpatients. The current study makes use of the health perceptions subscale as a thorough measure of self-rated health. Self-rated health has been extensively researched in the literature as a unique predictor of physical health status and mortality (Idler, & Benyamini, 1997).

Procedure. After obtaining approval from the VCU Institutional Review Board, students were administered the survey packet in its entirety through the online SONA research systems program. The SONA research systems program is a secure and confidential online data collection interface, which allows students to view and schedule participation in research studies being conducted on campus. The students who chose to participate in the current study first viewed a brief introduction including the nature of the study, the topics of the questions to be answered, and a statement of consent informing the participants that all participation is voluntary and may be discontinued at any time. Due to the sensitive and emotional nature of the topic to be addressed, participants were also provided with referral information for the University Counseling Center in the event that reminders of a recent loss resulted in emotional distress for the participant. Upon completion of the survey packet, participants were debriefed online and provided with information regarding the university's counseling services for a second time. Course credit for participation in the study was rewarded upon completion of the survey packet as appropriate.

Data analysis. All analyses were completed using SPSS and AMOS software.

Initial item analysis and reduction. As suggested by Clark and Watson (1995), items were examined initially based on their distribution (e.g. means, standard deviations, and ranges) before exploratory factor analysis was conducted. Items that were skewed or prone to being omitted by participants were considered for elimination from the item pool. Item intercorrelations were also used when considering items for removal from the item pool. Items with high correlations and similar wording may be considered to be redundant. In these instances, DeVellis (2003) recommends that items that are clearer in language and more

parsimonious in length be retained. However, DeVellis (2003) also notes that redundancy in items may be desirable in the early stage of scale development, and thus may be appropriate to retain for factor analysis. In all cases, a total constellation of factors (intercorrelations, item distribution, clarity of language) were considered when deciding whether to remove an item from the pool.

Exploratory factor analysis. Following initial item reduction, an exploratory factor analysis was used to determine the underlying factor structure of the remaining items. First, means were imputed for missing data in a procedure suggested by Tabachnick, and Fidell (2001). Next, SPSS software was used to test assumptions to ensure the appropriateness of conducting a factor analytic procedure with the items in the pool. The first assumption, the assumption of multivariate normality, was assessed by calculating the skewness and kurtosis of each item in the item pool. Tabachnick, and Fidell (2001) further suggest that the factorability of the items be tested through viewing the item correlation matrix, and by computing the Kaiser-Meyer-Olkin (KMO) index for the item set. A KMO index that is 0.6 or greater is considered to suggest good factorability.

Exploratory factor analysis was conducted in a manner suggested by DeVellis (2003) using a Maximum Likelihood Analysis. Maximum Likelihood was chosen in the current study as the common factor model of analysis is preferable to principal components analysis in cases where “the goal of research is to identify latent constructs...to create measurement instruments in which the researcher wishes to make the case that the resulting measurement instrument reflects a meaningful underlying construct” (Fabrigar, & Wegener, 2012, p. 32). An initial unrotated solution was used to estimate the number of factors suggested by the data.

Factors were selected using the following criteria (a) an eigenvalue greater than 1.0, (b) viewing of the scree plot, and (c) how much added variance is explained by the inclusion of each factor. DeVellis (2003) suggests conducting second exploratory factor analysis with an oblique rotation, to allow for the possibility that the factors may be correlated. An Oblimin rotation procedure will be used, with the number of factors constrained to the number identified in the initial unrotated solution. If the hypothesized structure is correct, the correlations between the factors will be low, despite allowing for correlated factors. If all retained factors are correlated < 0.30 , a third analysis will be conducted with an oblique, Varimax rotation. At this point, further items were excluded from the item pool. Items were retained if they exhibit a strong factor loading (> 0.5) on one factor, and do *not* have strong loadings (< 0.3) on all other factors. As items are eliminated, the factor analysis procedure was repeated until a final, relatively parsimonious model was settled upon.

Reliability. Cronbach's alphas were calculated for the total scale, as well as for the subscales that measure each individual factor in order to provide evidence for the statistical reliability of the scale and subscales.

Results

Missing data. In the current study, missing data was handled on multiple levels by 1) deleting cases with a high risk of missing data and random responding due to rapid completing of the survey 2) removal of cases with more than 20% missing data on the primary variables of interest (i.e., items from the item pool of the measure being developed in the current study) and 3) the use of mean imputation for continuous variables in the study with less than 5% missing data. Mean imputation was deemed appropriate in this case due to

the relatively small amount of missing data extant in the dataset for most variables following the removal of cases described above.

Due to the large number of variables in the current study, a full table of missing data is not included in this document. However, continuous variables with greater than 5% missing data included time since loss in months (42 cases; 6%); number of lifetime losses (60 cases; 8.6%); Brief RCOPE question 7 (*Disagreed with what the church wanted me to believe*; 46 cases; 6.6%) Brief RCOPE question 8 (*Felt dissatisfaction with the clergy*; 62 cases; 8.9%) Brief RCOPE question 9 (*Wondered whether my church had abandoned me*; 54 cases; 7.7%); GCOPE question 3 (*I've been drinking alcohol less than usual*; 36 cases; 5.1%); GCOPE question 4 (*I've been using drugs less than usual*; 53 cases; 7.6%); and GCOPE question 133 (*I have attended church less than usual*; 36 cases; 5.1%). In order to maintain the coherence of the overarching Brief RCOPE subscales, mean imputation was used for those items noted above. Devellis (2003) suggests that items with relatively large rates of missing data be excluded from the item pool, particularly when there is item redundancy. The three GCOPE items with >5% missing data were therefore excluded from analysis as part of the initial reduction of the item pool.

Categorical demographic variables in the current study tended to have a larger number of missing values (see Table 6 below). Cases with missing demographic data were excluded casewise from relevant analyses.

Table 6. *Missing Data for Categorical Variables*

Variable	Number of missing cases	Percentage of missing cases
Gender	0	0
Class Rank	0	0
Marital Status	12	1.7
Religion	138	19.7
Ethnicity	79	11.3
SES	62	8.9
Relationship	8	1.1
Circumstance	23	3.3

SES = Socioeconomic Status; Relationship = participants relationship to the deceased; Circumstance = circumstance of the loss

Subsample A: Initial item reduction and exploratory factor analysis.

Descriptive statistics.

Demographic data and outcome variables. Descriptive statistics were calculated for all continuous variables analyzed in the current study. The continuous demographic variables include age and time since the loss (reported in months). Continuous variables related to loss characteristics include number of lifetime losses experienced by the participant, level of grief at the time of the loss, and the closeness of the relationship between the participant and the deceased. Outcome variables were not included in the analysis of Subsample A, but descriptive statistics are included for grief, spiritual wellbeing, meaning made, mental health, and social functioning, occupational/role functioning, physical functioning, and perceived health in order to provide a description of the sample for comparison with Subsample B.

Descriptive data are reported in Table 7 below.

Table 7. *Descriptive statistics for Demographics and Loss Characteristics of Subsample A.*

Variable	Min.	Max.	Mean	SD	SE	Skewness	Kurtosis
Age	18	42	19.5	2.6	0.1	3.8	21.2
Time since loss (in months)	0	216	24.2	31.2	1.7	3.2	12.3
Grief at Time of Loss	1	5	2.7	1.2	.06	0.1	-0.9
Closeness to Deceased	1	5	2.95	1.3	0.7	-0.1	-1.0
Number of Lifetime Losses	0	20	3.1	2.1	0.1	2.4	12.1
Current Grief Severity	0	67	20.3	13.0	0.7	0.9	0.7
Meaning Made	27	80	60.2	11.3	0.6	-0.2	0.7
Perceived Health	10	100	70.0	20.8	1.1	-0.6	-0.3
Spiritual Wellbeing	22	120	86.1	19.9	1.0	-0.3	-0.5

The age of participants ranged from 18 to 42 with a mean of 19.5 years. Time since loss ranged from 0 to 216 months, with a mean of 24.2 months. Number of lifetime losses among participants ranged from 0 – 20 with a mean of 3.1. A number of variables were non-normal in distribution. Age and Time since loss were both positively skewed and kurtotic, reflecting that the majority of participants were 18 years of age and had experienced a relatively recent loss. Number of lifetime losses was also positively skewed and kurtotic, likely for the same reason. Physical, role, and social functioning as measured by subscales of the SF-20 were all negatively skewed and kurtotic. It is likely that this reflects both the young age of the sample (which is likely to have few health issues) and also the characteristics of the measures themselves. Subscales of the SF-20 are calculated by transforming ordinal data onto a 0 – 100 scale, but for most subscales there are relatively few response choices. Analysis of univariate outliers revealed a high number of outlying variables for age ($n = 21$), time since loss ($n = 40$), and number of losses ($n = 15$). In order to draw from the greatest variety of bereaved students during the scale development process and thus improve the chance of generalizability, these outlying cases were retained for further analysis.

Frequencies for demographic data. Frequencies were calculated for each of the categorical demographic variables gathered in this study. Frequencies are presented in the form of percentages calculated from the final sample size (N=375) included in the analyses. These variables included gender, ethnicity, class rank, marital status, socioeconomic status, and religious affiliation. These frequency data are presented in Table 8 below.

Table 8. *Frequencies and percentages for categorical demographic variables in Subsample A.*

Variable	Frequency	Percentage
Gender		
Male	112	29.9
Female	263	70.1
<i>Missing</i>	0	0
Ethnicity		
Caucasian	128	34.1
Black American	82	21.9
Asian/Asian American	46	12.3
Latino/Latina	26	6.9
Middle Eastern	10	2.7
Other	38	10.1
<i>Missing</i>	45	12.0
Class Rank		
Freshman	225	60.0
Sophomore	66	17.6
Junior	35	9.3
Senior	47	12.5
Graduate/Other	2	0.5
<i>Missing</i>	0	0
Marital Status		
Single	308	82.1
Married	3	0.1
Divorced/Separated	2	0.5
Long-Term	48	12.8
Living Together	5	1.3
<i>Missing</i>	9	2.4
Socioeconomic Status		
Low	43	11.5
Low-Middle	69	18.4

Table 8 continues

Table 8 continued

Middle	117	31.2
High-Middle	82	21.9
High	31	8.3
<i>Missing</i>	33	8.8
Religious Affiliation		
Christian	193	51.5
Muslim	25	6.7
Jewism	2	0.5
Buddhist	4	1.1
Hindu	6	1.6
Other	9	2.4
Atheist	16	4.3
Agnostic	11	2.9
None/Unaffiliated	37	9.9
<i>Missing</i>	72	19.2

As seen in Table 8, the present study's sample is predominantly female (70.1%). The majority of the sample identifies as Caucasian (59.2%), though a large portion of individuals identify as Black American (22.1%). The sample is skewed with regard to class rank as it is mostly comprised of freshmen students (60%). The majority of sampled individuals report being single (82.1%) and coming from a middle or high-middle class socioeconomic background 53.1% (\$50,000-\$150,000 per year combined household income). A majority of participants reported a Christian religious affiliation (51.5%).

Frequencies for loss characteristics. Frequencies were also calculated for important categorical loss characteristics: the circumstance of the loss and the relationship of the participant to the deceased. These values are provided in Table 9 below. The majority of participants in the current study reported on a recent loss of an extended family member (56.5%) due to illness (68.3%).

Table 9. *Frequencies and percentages for characteristics of the loss variables in Subsample A.*

Variable	Frequency	Percentage
Circumstance of the loss		
Illness	256	68.3
Accident	57	15.2
Suicide	25	6.7
Homicide	20	5.3
Military Casualty	4	1.1
<i>Missing</i>	5	1.3
Relationship to the Deceased		
Extended Family	212	56.5
Friend	81	21.6
Other	38	10.1
Acquaintance	19	5.1
Nuclear Family	14	3.7
Significant Other	5	1.3
Spouse	1	0.3
<i>Missing</i>	43	5.7

Initial item reduction. Descriptive statistics were calculated for the remaining 189 items in the GCOPE item pool for the purposes of further reducing the number of items for analysis based upon non-normality. All items exhibited the appropriate range of 1 (*I haven't been doing this at all*) – 4 (*I've been doing this a lot*). Means ranged from 1.16 (G25, *I have looked for support from my professors*, SD = 0.50) – 2.99 (G192; *I am trying to go on with my life*; SD = 1.03). No items exhibited a significant negative skew (i.e. <-1.0). Thirty-eight items were identified to have skewness values greater than 2.

Table 10. *Item text and descriptive statistics for nonnormal items.*

Item	Abbreviated Text	Mean	SD	Skewness	Kurtosis
G136	I have experienced a religious conversion	1.4	0.8	2.2	4.3
G137	I have spoken to a religious leader to find guidance	1.4	0.8	2.1	3.6
G109	I like others (friends, professors, family) less	1.4	0.7	2.2	3.9
G161	I have broken my ties with my lost loved-one	1.4	0.7	2.1	3.8
G87	I have worked more to help pay costs...	1.4	0.7	2.3	4.6
G5*	I have used substances to avoid thinking...	1.3	0.7	2.3	4.7
G115	I have avoided my friends since my loss	1.3	0.7	2.1	3.8
G28	I have seen a counselor to talk about my loss	1.3	0.8	2.3	4.4
G17	...made use of counseling services...	1.3	0.7	2.4	4.7
G106	I have used medications to help cope with feelings	1.3	0.8	2.4	4.6
G6*	I have used substances to become more in touch...	1.3	0.7	2.3	4.7
G172	I have felt that I have changed for the worse	1.3	0.7	2.1	3.9
G76	I have dropped a class	1.3	0.7	2.5	5.5
G146	I have lost meaning in life	1.3	0.7	2.3	4.4
G123	I have worked as a peer counselor	1.3	0.7	2.5	5.2
G9*	I have started drinking alcohol even when I am alone	1.3	0.7	2.5	6.0
G2*	I've been using substances...more than usual	1.3	0.7	2.4	5.5
G71	I have lost respect for some of my professors	1.3	0.7	2.4	5.3
G27	I have spoken to my faculty advisor	1.3	0.7	2.5	5.8
G24	I have spoken to faculty about my loss	1.3	0.7	2.5	5.6
G84	I planned the funeral/wake	1.3	0.7	2.5	5.7
G135	I have changed my religious beliefs	1.3	0.7	2.6	6.2
G178	I helped to plan a funeral or wake	1.3	0.7	2.5	5.8
G19	I have looked for mental health treatment...	1.3	0.7	2.7	6.8
G10*	I have started using drugs even when I am alone	1.3	0.6	2.7	6.9
G29	I...scheduled an... appointment with a counselor...	1.3	0.7	2.8	6.6
G31	I have spoken to my doctors...about my loss	1.3	0.6	2.4	5.1
G22	I...involved in campus activities related to loss	1.3	0.7	2.8	7.3
G77	I am planning to take time off from school	1.2	0.6	2.7	7.1
G96	I've been to the emergency room	1.2	0.6	3.0	8.7
G100	I have gone to my...medical provider for support	1.2	0.6	2.8	7.6
G105	I have started taking a psychiatric medication	1.2	0.6	3.1	9.0
G21	I have led a peer support group	1.2	0.6	3.2	9.7
G70	I have sought support from my professors...	1.2	0.6	3.0	8.7
G91	I have asked for financial help from friends	1.2	0.6	3.1	10.0
G101	I have gone to my...medical provider for a...note	1.2	0.6	3.3	10.6
G20	I have attended a peer support group	1.2	0.5	3.8	14.8
G25	I have looked for support from my professors	1.2	0.5	3.5	12.4

* Item was retained for further analysis on qualitative grounds

These items were also significantly kurtotic. Table 10 above provides the item text and descriptive statistics for these non-normal items. Based on the numbers above, the items with non-normal distributions appear to represent those items which participants were less likely to endorse and for which most respondents answered “I have not been doing this at all” (i.e. they have uniformly low means and exhibit strong positive skewness in the context of highly kurtotic distributions). The majority of these items were therefore removed from analysis at this stage as per the recommendations of Clark and Watson (1995). However, a number of items above (G5, G6, G9, G2, G10) are related to alcohol and substance abuse, which participants noted were particularly relevant during the qualitative phases of the study. These 5 items were therefore retained for further analysis on qualitative grounds.

GCOPE item intercorrelations. Clark and Watson (1995) suggest that interitem correlations be used at an early stage in scale development in order to further reduce the item pool. Specifically, they suggest that the most desirable items will demonstrate moderate-range correlations with other items in the scale. Items at the extreme ranges of being highly correlated with other items, or uncorrelated with other items are therefore appropriate to remove. The mean interitem correlation in the remaining item pool of the current study was $r = 0.19$ (minimum inter-item correlation = -0.23 ; maximum inter-item correlation = 0.74). No items in the remaining item pool exhibited a uniformly low correlation with other items (all items correlated significantly with at least one other item). Based on this pattern of intercorrelations, the author examined the content of items that correlated 0.6 or greater to remove redundancies. Table 11 below provides a list of these items and the relevant correlations.

Table 11. *List of significantly intercorrelated GCOPE items.*

Item	Abbreviated Text	Correlated Items	Correlations
G2	I've been using substances...more than usual	G5; G10	0.62; 0.63
G5	I have used substances to avoid thinking about my loss	G2	0.62
G10	I have started using drugs even when I am alone	G5	0.63
G15	I've wanted to know about what counseling services...are available	G16; G18	0.70; 0.62
G16	I've looked into what counseling services...are available	G15; G18	0.70; 0.64
G18	I've been considering going to a University counselor	G15; G16	0.62; 0.64
G56	I don't have motivation to do what I need to do	G64; G126	0.60; 0.62
G64	I have lost enjoyment in some activities...they seem meaningless	G56	0.60
G65	I haven't been going to class	G74	0.66
G68	I've thought about dropping one or more classes	G75	0.67
G73	I have thrown myself into my schoolwork	G79	0.66
G74	I have been avoiding class	G65	0.66
G75	I have considered dropping one or more courses	G68	0.67
G79	I've thrown myself into my work/Schoolwork	G73	0.66
G112	I avoid talking about my loss...I don't want....feel sorry for me	G113	0.60
G113	I avoid talking about my loss because I don't want pity	G112	0.60
G126	I have withdrawn socially	G56	0.62
G130	I have prayed more	G180; G181	0.69; 0.69
G180	I have focused on my religious faith	G130; G181	0.69; 0.69
G181	I have asked God to help me get through this	G130; G180	0.69; 0.69

Based on a review of the magnitude of the correlations in question and the text of the items themselves, a limited number of items were removed from analysis. Item G73 (*I have thrown myself into my schoolwork*) was removed in favor of the more inclusively worded item

G79 (*I've thrown myself into my work/schoolwork*). Item G113 (*I avoid talking about my loss because I don't want pity*) was removed in favor of the more descriptively worded item G112 (*I avoid talking about my loss because I don't want people to feel sorry for me*). All other items were deemed to have distinct-enough wording to be included in the factor analysis procedure.

Exploratory factor analysis. In order to test Hypothesis 1, which posited a two-factor orthogonal solution, an exploratory factor analysis was conducted. Examination of the missing data, normality, inter-item correlations, and wording of items in the item pool resulted in the removal of 38 items, with a remaining item pool of 154. These items were retained for further analyses described below.

Assumptions. The inter-item correlations described above fall within the acceptable range as suggested by Clark and Watson (1995). To further test the factorability of the item set, SPSS was used to calculate the Kaiser-Meyer-Olkin (KMO) index of sampling adequacy for the remaining 154 items in the item pool. The KMO index for the current item pool was 0.86 indicating good factorability for the items in the item-pool (Hutcheson & Sofroniou, 1999). Bartlett's Test of Sphericity was also significant ($\chi^2(11781) = 34848.22, p < .001$) indicating that it was appropriate to proceed with factor analysis.

Initial factor extraction (unrotated solution). An initial maximum likelihood extraction was computed using SPSS in order to estimate communalities and identify the appropriate number of factors to extract in rotated iterations of the factor analytic procedure. Communalities for the current item pool ranged from 0.308 to 1.000 (mean = 0.611). The single Heywood case (communality = or > 1) could call into question the appropriateness of

maximum likelihood analysis as a way of extracting factors from the data available. However, it could also be an artifact of the large number of common factors extracted with the unrotated solution. In this regard, the author made the decision to proceed with the maximum likelihood analysis under the assumption that the initial solution would indicate a reasonably small number of factors, leading to a stable solution without Heywood cases.

Several items were identified which had low communalities and were thus removed from analysis. A stringent criteria of 0.5 was used in order to reduce the overall item pool and increase the chances of finding a reliable factor structure. Table 12 below provides the item content and communalities for the items in question.

Table 12. *Items removed from analysis due to low communalities.*

Item	Item Text	Initial Communality	Extraction Communality
G142	I have learned to think differently about my loss	.685	.499
G50	I've been blunting my emotions	.692	.498
G148	I have connected with others	.689	.498
G160	I have changed my behavior to be more like my lost loved-one	.710	.496
G89	I have taken on more responsibilities at work	.668	.496
G140	I have tried to make sense of what happened	.667	.495
G102	I have focused more on physical problems	.659	.493
G43	I have collected physical reminders of the person I have lost	.686	.493
G186	I am occupied with the loss	.686	.489
G108	I like others more	.659	.485
G111	I use humor to talk about my loss with friends	.691	.480
G192	I am trying to go on with my life	.682	.478
G57	I have been writing in a journal about my feelings	.638	.476
G143	I have put my loss in perspective	.639	.470
G145	I have felt that all things in life are random	.631	.467
G128	I have reevaluated my priorities	.682	.459
G95	I've exercised less than usual	.682	.459
G175	I have found comfort in thinking about the funeral	.651	.453
G46	I avoid reminders of the person that I have lost	.647	.444
G129	I have reexamined my spiritual beliefs	.661	.439
G97	I sleep more than usual	.666	.430
G112	I avoid talking about my loss because I don't want people to feel sorry for me	.569	.427
G30	I have resisted going to a counselor to talk about my loss	.606	.394
G54	I've been crying less than usual	.554	.341
G151	I've been telling jokes and laughing	.564	.338
G162	I have realized that my loved-one is gone forever	.583	.308

Maximum likelihood extraction as described above was repeated without the items in question (item pool $N = 128$). Multiple methods were used to determine the appropriate number of factors to extract: a) examination of eigenvalues b) examination of the scree plot and c) examination of additional variance explained (Gorsuch, 1983). The eigenvalue method (Kaiser, 1960) suggests that one retain factors with eigenvalues greater than 1. In the current study, initial extraction indicated 31 possible factors with eigenvalues greater than 1 (see Table below). However, Kaiser's criteria was developed for use in analyses with a relatively small number of variables (i.e. <30) with relatively high communalities (i.e. > 0.7) or with large samples ($N > 250$) and high communalities (mean > 0.6). Although the current data met Kaiser's sample-size and communality criteria after removing low-communality items, the presence of a Heywood case in the first iteration of the model along with the sheer number of variables analyzed suggested that the use of Kaiser's method was not appropriate (at this stage of the current study, an eigenvalue of 1 corresponds conceptually to explaining $1/128^{\text{th}}$ of the variance). Stevens (1992) suggests that if Kaiser's (1960) criteria are not met then one should also look at a scree plot to explore the factor structure. Examination of the variance explained by each factor suggested that a 1-, 2-, 4-, or 5-factor solution would be most appropriate for the current data, with the percentage of variance explained levelling off after 5 factors. Table 13 below shows the eigenvalues and variance explained for each of the 31 factors extracted.

Table 13. *Eigenvalues and variance explained during initial factor extraction.*

Factor	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	26.656	20.825	20.825	25.964	20.284	20.284
2	10.600	8.281	29.106	10.222	7.986	28.270
3	3.980	3.109	32.215	3.190	2.492	30.762
4	3.860	3.016	35.231	3.161	2.470	33.232
5	3.322	2.595	37.826	3.132	2.447	35.679
6	2.683	2.096	39.922	2.115	1.652	37.332
7	2.465	1.926	41.848	2.527	1.975	39.306
8	2.291	1.790	43.637	1.699	1.327	40.633
9	2.167	1.693	45.330	1.800	1.406	42.039
10	1.940	1.516	46.846	1.719	1.343	43.382
11	1.889	1.476	48.322	1.544	1.206	44.588
12	1.768	1.381	49.704	1.386	1.083	45.671
13	1.716	1.341	51.045	1.213	.948	46.619
14	1.674	1.308	52.352	1.304	1.019	47.637
15	1.601	1.251	53.603	1.191	.930	48.568
16	1.562	1.220	54.824	1.212	.947	49.514
17	1.527	1.193	56.017	1.110	.868	50.382
18	1.474	1.151	57.168	1.081	.844	51.226
19	1.435	1.121	58.289	1.073	.838	52.065
20	1.356	1.059	59.349	.997	.779	52.843
21	1.317	1.029	60.377	.952	.744	53.587
22	1.305	1.020	61.397	.856	.669	54.256
23	1.272	.994	62.390	.860	.672	54.928
24	1.249	.976	63.366	.893	.697	55.625
25	1.239	.968	64.334	.839	.656	56.281
26	1.207	.943	65.277	.859	.671	56.952
27	1.170	.914	66.191	.799	.625	57.576
28	1.140	.891	67.082	.737	.576	58.152
29	1.108	.866	67.948	.696	.544	58.696
30	1.047	.818	68.766	.634	.496	59.191
31	1.013	.791	69.557	.663	.518	59.709

Use of the scree test method (Cattell, 1966) was suggestive of either a parsimonious 2-factor solution or a more inclusive 5-factor solution (see figure below). In this regard, both factor solutions were explored in order to determine which model was most likely produce good model fit at the confirmatory stage of analysis.

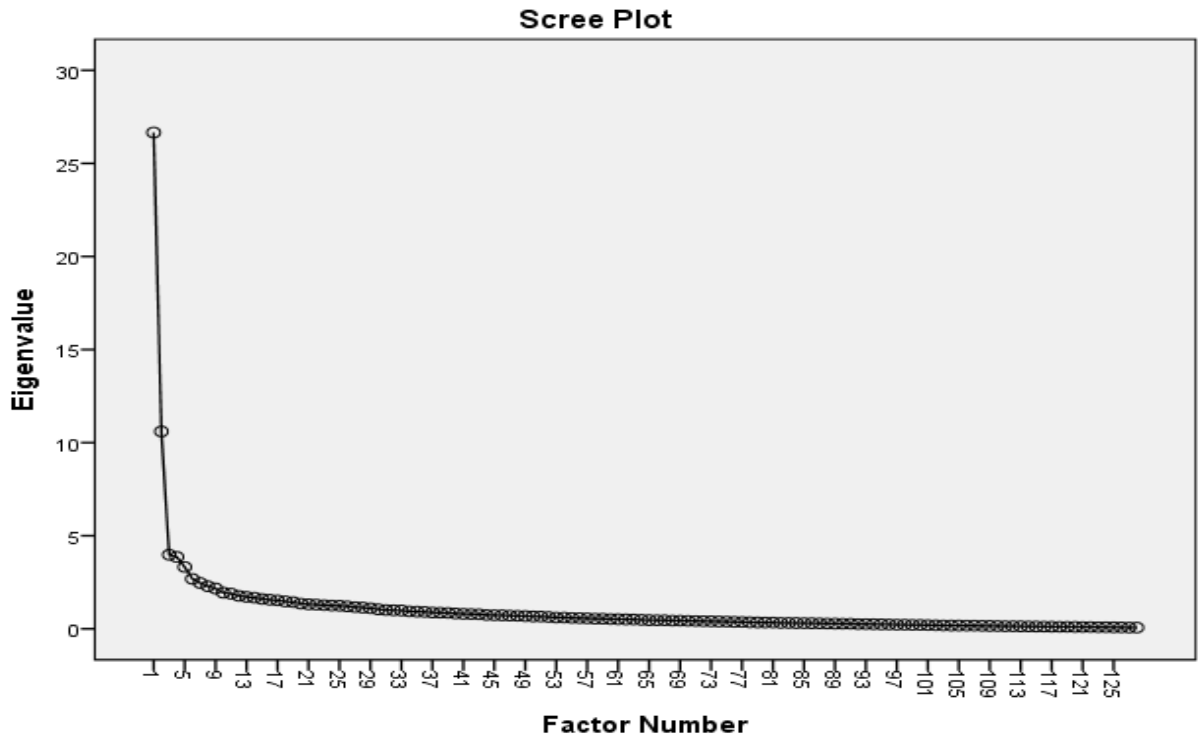


Figure 3. Scree plot for the 128-item unrotated solution.

The 2-factor solution. Several iterations of maximum likelihood analysis were conducted with the 2-factor solution in an attempt to produce a 2-factor model that was both statistically robust and conceptually meaningful. Several issues were identified with the 2-factor model during the factor analytic process. First, the two factors continued to explain a relatively small percentage of variance in the model even after poorly-loading items were removed through several reiterations of the analysis. With the analysis set to produce a 2-factor solution with correlated factors (using an Oblimin rotation), the 2 factors together

explained 29% of the variance in the 128 items. Reducing the number of items repeatedly through removal of items with poor factor loadings, large cross-loadings, and low communalities resulted in a 58-item solution which explained 36.8% of the variance. Communalities ranged from 0.205 – 0.619 with a mean of 0.346. While models explaining only moderate amounts of variance are not uncommon (e.g. Pargament et al., 1998), and maximum likelihood analyses explain a smaller percentage of variance than principle components analyses, liberal guidelines suggest retaining factors until variance explained approaches 50% (Beavers et al., 2013) and a large study comparing factor analytic methods under a number of conditions indicated that maximum likelihood analyses produced an average variance accounted for of 59.8% (Costello, & Osborne, 2005).

Another indicator that a 2-factor solution may not be the best fit for the data was the difficulty in settling on a set of items which produced consistently acceptable factor loadings. A factor loading at or above .3 is considered moderately high (Kline, 2002), but higher factor loadings are preferred (Stevens, 1992). In the current study, items were considered to have “good fit” if they showed a strong loading (>0.45) on one factor and a weak loading (<0.3 ; >-0.3) on the other factor. In order to arrive at a reasonable 2-factor solution, these criteria had to be adjusted resulting in the inclusion of items with factor loadings of 0.4. When the original criteria were retained items were reduced until the 2nd factor ceased to exist.

Perhaps most importantly, the interpretability of the 2-factor solution indicated the possibility of multiple sub-factors. Table 14 below gives the factor-loadings and item content for the items retained in the 2-factor solution. Factor 1 included 39 items with content related to depression symptoms and the experience of negative emotion, social withdrawal, feeling

overwhelmed, and substance abuse. Factor 2 included 17 items with content related to engagement in activities, emotional disclosure, and feeling a continued connection to the deceased.

Table 14. *Factor loadings for the 2-factor 58-item solution*

Item	Item Text	Factor 1 Loading	Factor 2 Loading
G56	I don't have motivation to do what I need to do	.797	-.066
G64	I have lost enjoyment in some activities because they seem meaningless since my loss	.743	-.021
G126	I have withdrawn socially	.719	-.085
G187	I dwell on my sorrow	.678	-.059
G103	I have been physically ill more often	.664	-.038
G65	I haven't been going to class	.643	-.072
G49	I've felt numb	.642	.058
G74	I have been avoiding class	.640	-.101
G144	I have felt that the world has no meaning	.633	-.188
G184	I'm not as much fun as I used to be	.632	-.041
G59	I have avoided sleeping	.627	-.066
G38	I've gotten very angry	.624	.045
G5	I have used substances to avoid thinking about my loss	.622	-.035
G34	I've felt like I couldn't deal with life	.616	-.015
G185	I'm not as light or carefree as I was before my loss	.593	.133
G55	I don't enjoy things like I used to before the loss	.593	-.071

Table 14 continued

G75	I have considered dropping one or more courses	.591	.037
G1	I've been drinking alcohol more than usual	.575	-.020
G104	I have used illness as an excuse to take time off	.570	-.012
G51	I've tried everything to avoid my emotions	.570	-.031
G98	I have difficulty sleeping	.569	-.052
G37	I've gotten very angry at people around me	.563	.122
G9	I have started drinking alcohol even when I am alone	.562	-.090
G68	I've thought about dropping one or more classes	.558	.057
G116	I spend less time with friends who do not understand what I am going through	.551	.105
G99	I have had difficulty concentrating	.549	.105
G69	I feel pressure to choose between self-care and working on schoolwork	.545	.144
G53	I've been crying more than usual	.544	.065
G32	I have looked for self-help materials on the internet	.541	.083
G2	I've been using substances (illegal drugs, unprescribed pharmaceutical medications) more than usual	.540	-.014
G88	I have spent money recklessly	.536	.063
G66	I've been late to class/work	.536	.076
G67	I've skipped class/work	.530	.018
G35	I've felt unprepared for what has been required of me	.528	.213
G48	I've not been able to feel emotions	.523	.001

Table 14 continued

G10	I have started using drugs even when I am alone	.523	-.059
G36	I've felt emotionally unprepared to deal with my loss	.521	.137
G52	I've been turning off my emotions	.519	-.005
G60	I have had nightmares	.493	.066
G163	<i>I have seen aspects of my lost loved-one within myself</i>	.206	.426
G158	<i>I have thought about what my loved-one would want me to do</i>	.201	.498
G85	<i>I have taken on new responsibilities within my family</i>	.195	.440
G13	<i>I have shared my feelings with friends</i>	.175	.411
G169	<i>I have tried to see myself as a new person</i>	.170	.502
G141	<i>I have tried to fit my loss into my beliefs about the world</i>	.160	.429
G86	<i>I have taken on new responsibilities</i>	.099	.546
G152	<i>I have focused on fond memories</i>	.093	.487
G165	<i>I have accomplished things I never thought I would be able to</i>	.083	.568
G12	<i>I've talked with others about my loss</i>	.066	.451
G181	<i>I have asked God to help me get through this</i>	.016	.449
G173	<i>I have felt that I have changed for the better</i>	-.012	.592
G164	<i>I have noticed that I am stronger since my loss</i>	-.019	.620
G168	<i>I have found benefit in how my life has changed</i>	-.023	.580
G189	<i>I direct my thoughts to the future</i>	-.112	.601

Table 14 continues

Table 14 continued

<i>G190</i>	<i>Despite everything, I am trying to make the best of it</i>	<i>-.194</i>	<i>.615</i>
<i>G166</i>	<i>I am emotionally stronger now</i>	<i>-.207</i>	<i>.665</i>
<i>G167</i>	<i>I have focused on positive changes in my life</i>	<i>-.222</i>	<i>.624</i>
<i>G191</i>	<i>I try to look ahead</i>	<i>-.243</i>	<i>.641</i>

Confirmatory analyses with subsample B using the two-factor model described above failed to produce an acceptable level of model fit. The goodness-of-fit test for the 2-factor, 58-item was significant ($\chi^2(1538) = 3883.35, p < 0.001$). However, this method is known to be overly conservative. CMIN/DF fell within the borderline range of fit: 2.7. CFI showed poor fit (0.69) but RMSEA showed borderline fit (0.073). An examination of the modification indices showed a pattern of correlated error terms such that groups of items appeared to share error variance. In some cases, these patterns are indicative of additional factors that should be added to the model (Kenny, 2011). Items whose errors tended to be correlated included items with content related to substance abuse, items related to skipping work and class, and items related to disclosing or sharing your loss with others.

Unrotated 5-factor solution. Based on the above, a second Maximum Likelihood extraction was computed in SPSS with the number of factors to extract set to 5 with the 128 items that were retained before factor rotation. A 5-factor solution was selected based on 1) reexamination of the scree plot and 2) in order to maximize the amount of variance explained by the model. Additionally, conceptual consideration was given to the notion that the concept of coping is multifactorial. One goal of the current study was to conclude with a coping strategy scale that comprehensively sampled the universe of coping strategies described by the bereaved while remaining parsimonious. Testing a factor solution consisting of the maximum number of factors suggested by the scree plot was therefore deemed appropriate.

As expected, as the number of factors was constrained to five, no Heywood cases were identified after examination of the communalities for the items. Extraction communalities for the set of 128 items ranged from 0.16 – 0.76 with a mean of 0.35. Though modest, these communalities were deemed acceptable at this stage with the goal of further reducing the

number of items to arrive at a final, useable scale. The 5 factors together explained 38% of the variance in the current item pool (see Table 15 below).

Table 15. *Variance explained by the factors in the 128-item 5-factor solution.*

Factor	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	26.656	20.825	20.825	25.983	20.299	20.299
2	10.600	8.281	29.106	9.877	7.716	28.016
3	3.980	3.109	32.215	3.275	2.558	30.574
4	3.860	3.016	35.231	3.137	2.451	33.025
5	3.322	2.595	37.826	3.002	2.346	35.370

Extraction Method: Maximum Likelihood.

Oblique 5-factor rotation. The next step in the current factor analytic procedure was to test for correlated factors using an oblique factor rotation. The current study utilized a direct oblimin rotation with delta set to 0 to allow for the extraction of discrete factors with modest correlations. The resulting factor extraction suggested that the five factors were moderately inter-correlated (see Table 16 below). This level of intercorrelation suggests that 1) an oblique rotation is appropriate for the current set of items and 2) a more parsimonious 1- or 2-factor solution would not have been appropriate for these data, as none of the factors correlate highly enough to collapse into a broader factor.

Table 16. *Intercorrelations between the five factors.*

Factor Correlation Matrix					
Factor	1	2	3	4	5
1	1.000	.075	-.281	.426	.323
2	.075	1.000	-.289	-.007	.329
3	-.281	-.289	1.000	-.212	-.406
4	.426	-.007	-.212	1.000	.183
5	.323	.329	-.406	.183	1.000

Examination of the factor loadings allowed the researcher to select those items which showed the best fit to the 5-factor model. At this stage of analysis, items continued to be considered to have “good fit” if they showed a strong loading (>0.45) on one factor and a weak loading (<0.3 ; >-0.3) on the other factor. As these loadings were the result of an oblimin procedure where factors were allowed to correlate, the pattern matrix, which gives loadings for the unique relationship between each item and factor, was examined. Application of these criteria led to the retention of 63 items dispersed across the 5 factors (see Table 17 below): 22 items loaded strongly and uniquely onto Factor 1; 15 items loaded strongly and uniquely onto Factor 2; 8 items loaded strongly and uniquely onto Factor 3; 8 items loaded strongly and uniquely onto Factor 4; and 10 items loaded uniquely onto Factor 5.

Table 17. *Factor loadings for the 63 items retained in the 5-factor model.*

Item	Factor 1 Loading	Factor 2 Loading	Factor 3 Loading	Factor 4 Loading	Factor 5 Loading
G99	0.702	0.05	0.047	-0.097	0.005
G34	0.644	-0.043	0.002	0.015	0.008
G56	0.616	-0.115	-0.095	0.254	-0.039
G35	0.612	0.074	-0.088	-0.068	0.05
G69	0.607	0.105	0.011	0.022	-0.014
G51	0.603	-0.012	0.03	0.039	-0.052
G126	0.583	-0.173	-0.104	0.17	0.026
G38	0.582	-0.05	0.002	0.082	0.071
G185	0.565	0.002	0.023	0.072	0.165
G49	0.557	-0.01	-0.038	0.129	0.069
G53	0.553	-0.08	0.072	-0.023	0.213
G184	0.551	-0.096	-0.034	0.147	-0.002
G47	0.544	-0.104	-0.018	-0.208	0.255
G52	0.536	0.008	-0.045	0.064	-0.141
G37	0.527	0.02	0.081	0.088	0.187
G64	0.527	-0.07	-0.067	0.3	0.003
G170	0.518	0.388	-0.007	-0.066	-0.01
G98	0.513	-0.054	0.008	0.123	-0.038
G144	0.5	-0.208	0.044	0.181	0.057
G150	0.488	0.387	-0.082	-0.101	-0.021
G116	0.483	0.002	0	0.12	0.08
G67	0.453	0.065	-0.039	0.197	-0.158
G166	-0.16	0.641	-0.088	0.031	0.033
G167	-0.066	0.601	-0.131	-0.097	-0.054
G191	-0.044	0.597	0.03	-0.13	0.064
G164	-0.028	0.551	-0.031	0.083	0.148
G173	0.032	0.534	-0.169	0.03	-0.019
G153	-0.017	0.523	-0.051	0.071	-0.046
G168	-0.026	0.511	-0.057	0.049	0.152
G125	-0.176	0.5	-0.065	0.275	0.029
G124	-0.178	0.492	-0.054	0.139	-0.004
G190	0.004	0.483	-0.139	-0.23	0.056
G165	0.125	0.48	-0.19	-0.011	0.024
G189	0.011	0.48	-0.137	-0.108	0.096
G147	-0.141	0.464	-0.087	0.148	0.078
G122	-0.156	0.459	0.009	0.273	0.072

Table 17 continued

G86	0.288	0.451	-0.156	-0.159	0.017
G180	-0.156	0.068	-0.924	-0.039	-0.115
G130	-0.158	0.045	-0.798	-0.06	-0.02
G181	-0.025	0.073	-0.782	-0.237	0.01
G179	-0.029	0.018	-0.628	-0.002	0.075
G132	-0.065	-0.023	-0.612	-0.015	0.044
G134	0.004	0.045	-0.603	-0.013	-0.012
G139	-0.022	0.115	-0.572	-0.102	0.015
G174	-0.011	-0.06	-0.483	0.102	0.176
G2	0.057	0.104	0.081	0.713	0.037
G10	0.022	0	-0.025	0.687	0.016
G1	0.13	0.096	0.039	0.665	-0.021
G5	0.144	-0.043	-0.039	0.64	0.057
G7	-0.007	0.21	0.01	0.574	0.016
G8	0.074	0.056	-0.074	0.546	0.03
G9	0.156	-0.093	0.025	0.536	0.092
G6	0.048	-0.038	-0.024	0.497	0.209
G14	-0.106	0.043	0.048	0.067	0.644
G114	-0.096	0.104	0.002	0.046	0.569
G11	0.086	0.007	0.008	0.019	0.557
G119	-0.145	0.081	-0.062	0.044	0.545
G12	-0.032	0.133	-0.031	-0.045	0.544
G110	0.023	0.123	-0.059	-0.106	0.531
G154	0.046	-0.038	-0.147	0.008	0.517
G118	-0.151	-0.019	-0.109	0.09	0.492
G44	-0.076	-0.112	-0.09	0.111	0.486
G42	0.22	-0.092	-0.031	0.142	0.469

As recommended by Devellis (2003), the same factor analytic procedure (an oblimin rotation with delta set to 0 and constraining the solution to 5 factors) was repeated including only the 63 retained items. The process described above was repeated, with an examination of the pattern matrix used to determine which items retained “good fit” for the new factor solution. As shown in Table 18 below, the total variance explained by the five factors was approximately 45%. Communalities ranged from 0.20 – 0.78 with a mean of 0.41.

Table 18. *Variance explained by the 5 factors in the 63-item model*

Total Variance Explained							
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	12.669	20.110	20.110	12.043	19.116	19.116	10.080
2	7.528	11.949	32.059	6.788	10.774	29.890	6.372
3	2.974	4.720	36.779	2.502	3.971	33.861	6.213
4	2.901	4.605	41.384	2.391	3.795	37.656	6.193
5	2.595	4.120	45.504	2.091	3.320	40.976	5.723

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

The scree plot for the reduced set of items also began to more clearly show the appropriateness of a 5-Factor solution to explain the items retained (see Figure 4 below).

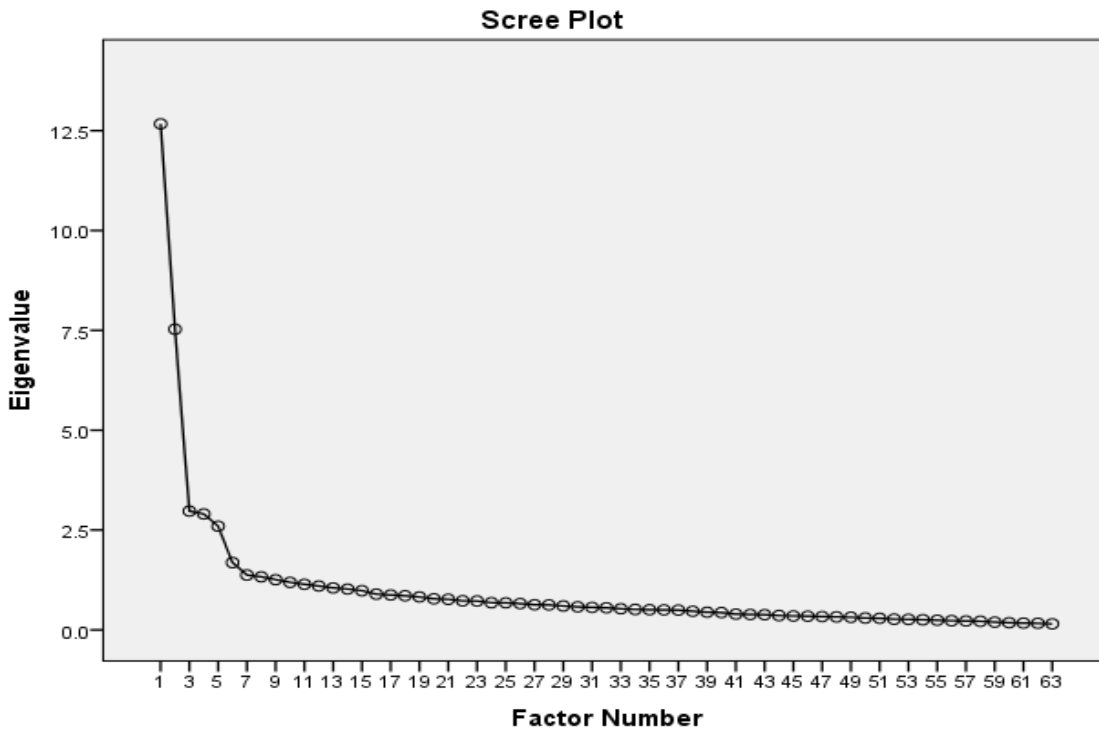


Figure 4. Scree plot of the 5-factor, 63-item solution

Examination of the pattern matrix revealed that 7-items no longer met criteria for inclusion.

Table 19. *Factor loadings of items removed from the 5-factor model*

Item	Factor 1 Loading	Factor 2 Loading	Factor 3 Loading	Factor 4 Loading	Factor 5 Loading
G170	.492	.355	-.002	.019	-.005
G150	.464	.351	-.084	.049	-.019
G67	.422	.057	.015	-.153	-.076
G86	.300	.437	-.122	.156	.011
G44	-.011	-.078	-.106	-.119	.389
G42	.295	-.040	-.036	-.122	.385
G154	.113	.010	-.166	-.050	.373

The factor-analytic procedure was replicated again with these seven items removed from the analysis. Results for the 56-item solution were similar to those of the 63-item solution. As shown in Table below, the total variance explained by the five factors was approximately 47%. Communalities ranged from 0.27 – 0.79 with a mean of 0.42.

Table 20. *Variance explained by factors in the 56-item, 5-factor model.*

Total Variance Explained							
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.261	20.109	20.109	10.654	19.024	19.024	9.141
2	7.272	12.987	33.095	6.519	11.641	30.665	5.878
3	2.948	5.264	38.359	2.517	4.494	35.159	5.695
4	2.677	4.781	43.140	2.250	4.017	39.176	6.128
5	2.358	4.211	47.351	1.786	3.190	42.366	4.668

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

All 56 items remained strongly loaded to only a single factor without crossloading. Three factors now exhibited strong negative associations with their respective items. This pattern is an artifact of the factor extraction and rotation procedure, where the program arbitrarily orients the pole of some factors in a negative direction while conducting the rotation. The KMO index for the current item pool was 0.89 indicating continued good factorability for the items in the item-pool (Hutcheson & Sofroniou, 1999). Bartlett's Test of Sphericity also remained significant ($\chi^2(1540) = 9624.83, p < .001$).

Table 21 below provides the factor loadings for the 56 retained items as well as abbreviated item text.

Table 21. *Item content and factor loadings for final 56-item solution.*

Item	Item Content	Factor 1 Loading	Factor 2 Loading	Factor 3 Loading	Factor 4 Loading	Factor 5 Loading
G99	I have difficulty concentrating	.721	.094	.061	.104	.043
G34	I've felt like I couldn't deal with life	.688	-.013	-.009	-.017	.027
G56	I don't have motivation to do what I need to	.649	-.091	-.079	-.217	.048
G53	I've been crying more than usual	.635	-.009	.057	.050	-.123
G69	I feel pressure to choose between self-care and working on school work	.631	.144	.053	.029	.033
G35	I've felt unprepared for what has been required for me	.621	.072	-.078	.068	-.053
G51	I've tried everything to avoid my emotions	.616	-.006	-.005	-.021	.058
G38	I've gotten very angry	.615	-.028	-.004	-.085	-.034
G49	I've felt numb	.594	-.009	-.056	-.135	-.009
G126	I have withdrawn socially	.588	-.168	-.090	-.142	-.041
G47	I've felt scared	.575	-.047	-.027	.187	-.179
G184	I'm not as much fun as I used to be	.572	-.084	-.047	-.144	.027
G64	I have lost enjoyment in some activities because they seem meaningless since my loss	.565	-.047	-.064	-.252	.026
G185	I'm not as light or care free as I was before my loss	.563	.003	-.004	-.094	-.102
G52	I've been turning off my emotions	.561	.030	-.055	-.059	.194
G116	I spend less time with friends who do not understand what I am going through	.551	.046	-.001	-.074	-.033
G98	I have difficulty sleeping	.547	-.021	.008	-.075	.062
G37	I've gotten very angry at people around me	.547	.007	.056	-.111	-.171
G144	I have felt that the world has no meaning	.521	-.184	.025	-.169	-.031
G166	I am emotionally stronger now	-.084	.638	-.040	.026	-.068
G191	I try to look ahead	-.007	.615	.086	.158	-.105
G167	I have focused on positive changes in my life	-.028	.589	-.102	.086	.047
G124	I have made new friends	-.074	.570	.000	-.086	.062
G164	I have noticed that I am stronger since my loss	.046	.562	.003	-.058	-.147
G173	I have felt that I have changed for the better	.083	.549	-.113	-.008	.025
G125	I have started new relationships	-.092	.532	-.012	-.214	-.042
G153	I've been laughing more	.031	.530	-.014	-.020	.037
G147	I have found meaning in new relationships	-.026	.528	-.041	-.101	-.031
G165	I have accomplished things I never thought I would be able to	.191	.510	-.155	.037	.030
G189	I direct my thoughts towards the future	.055	.510	-.121	.085	-.006
G190	Despite everything, I am trying to make the best of it	.061	.505	-.084	.255	-.107
G168	I have found benefits in how my life has changed	.034	.504	-.007	-.028	-.210
G122	I have been focused on new relationships	-.086	.498	.045	-.239	-.068
G180	I have focused on my religious faith	-.126	.008	-.913	-.042	.061

Table 21 continues

Table 21 continued

G130	I have prayed more	-.078	.056	-.790	.000	.043
G181	I have asked God to help me get through this	.010	.046	-.779	.153	-.035
G179	I have kept religious symbols with me	.016	.009	-.620	-.045	-.005
G134	I have drawn from my religious beliefs for comfort	.038	.009	-.594	-.030	-.018
G132	I have attended church more than usual	.022	.018	-.568	.001	-.028
G139	I have found comfort in my beliefs about the afterlife	.014	.081	-.552	.060	-.050
G174	I have participated in religious or cultural rituals related to the loss	.067	-.063	-.465	-.112	-.151
G2	I've been using substances (illegal drugs, unprescribed pharmaceutical medications) more than usual	.050	.061	.062	-.776	-.073
G10	I have started using drugs even when I am alone	.041	-.018	-.033	-.686	-.019
G5	I have used substances to avoid thinking about my loss	.145	-.067	-.041	-.676	-.053
G1	I've been drinking alcohol more than usual	.157	.082	.012	-.670	.063
G7	I've been going to parties more often	.015	.194	-.001	-.590	.016
G9	I have started drinking alcohol even when I am alone	.155	-.119	-.013	-.562	-.069
G6	I have used substances to become more in touch with my feelings about the loss	.077	-.014	-.041	-.551	-.101
G8	I've been partying to feel normal	.115	.068	-.075	-.534	.015
G14	I have shared my feelings with my family	-.024	.022	.055	-.040	-.752
G118	I talk with my family when I am feeling down	-.107	-.108	-.122	-.091	-.623
G119	I have reached out more often to my family since my loss	-.050	.030	-.083	-.036	-.606
G114	I have relied on friends to help me through my loss	-.002	.104	-.020	-.060	-.547
G110	I spend more time with my family since my loss	.088	.089	-.080	.086	-.540
G11	I've wanted to talk about my loss	.191	.057	.003	-.006	-.505
G12	I've talked with others about my loss	.079	.152	-.039	.055	-.498

The correlations among factors (see Table below) must be interpreted carefully due to the negative poling of three of the factors. In order to interpret these correlations correctly, the direction of the correlation (-/+) must be switched for the relationships with involve a negatively poled factor. These correlations are fully explored in the discussion section.

Table 22. *Factor Correlation Matrix for the 5-factor model.*

Factor Correlation Matrix					
Factor	1	2	3	4	5
1	1.000	.006	-.198	-.420	-.213
2	.006	1.000	-.366	-.030	-.320
3	-.198	-.366	1.000	.110	.327
4	-.420	-.030	.110	1.000	.107
5	-.213	-.320	.327	.107	1.000

Reliability. Alpha coefficients were calculated separately for each subscale using SPSS software. As Cronbach's alpha is known to be sensitive to the number of items used to calculate it, the average interitem correlation was also computed. Internal consistencies were strong for all 5 factors, and average interitem correlations were in the moderate range, suggesting a good mix of internal consistency and discreteness between items. Table 23 below provides the internal consistency estimates for each factor.

Table 23. *Internal consistency estimates for the five factors*

Factor	# of Items	Alpha	Mean IIC	Min IIC	Max IIC
1	19	0.95	0.40	0.24	0.63
2	14	0.88	0.34	0.16	0.60
3	8	0.87	0.46	0.33	0.71
4	8	0.87	0.47	0.33	0.63
5	7	0.82	0.40	0.28	0.52

IIC = Inter-item correlation

Based on the above, the scale was judged to be acceptable for continuation on to confirmatory testing with Subsample B.

Subsample B: Confirmatory factor analysis and validity tests. In order to test Hypothesis 2, which posited that the factor-structure developed during exploratory analysis

would show good model fit when subjected to confirmatory testing, a Confirmatory Factor Analysis was conducted using AMOS 22.0 software.

Descriptive statistics.

Demographic data and outcome variables. Descriptive statistics were calculated for all continuous variables analyzed in the Subsample B just as with Subsample A. The continuous demographic variables include age and time since the loss (reported in months). Continuous variables related to loss characteristics include number of lifetime losses experienced by the participant, level of grief at the time of the loss, and the closeness of the relationship between the participant and the deceased. Outcome variables included for grief, spiritual wellbeing, meaning made, spiritual wellbeing, and perceived health. Descriptive data are reported in Table 24 below.

Table 24. *Descriptive statistics for continuous variables for Subsample B.*

Variable	Min.	Max.	Mean	SD	SE	Skewness	Kurtosis
Age	18	33	19.6	2.3	0.1	2.6	8.8
Time since loss (in months)	0	168	21.7	26.2	1.5	3.0	10.5
Grief at Time of Loss	1	5	2.7	1.2	.07	0.2	-0.8
Closeness to Deceased	1	5	3.0	1.3	0.7	-0.5	-1.0
Number of Lifetime Losses	0	19	3.0	2.0	0.1	2.7	15.1
Current Grief Severity	0	59	20.7	12.5	0.7	0.6	-0.4
Meaning Made	21	80	59.7	12.1	0.7	-0.4	-0.2
Perceived Health	5	100	68.7	20.3	1.1	-0.6	-0.2
Spiritual Wellbeing	36	120	85.5	20.4	1.1	0.1	-0.8

The age of participants ranged from 18 to 33 with a mean of 19.6 years. Time since loss ranged from 0 to 168 months, with a mean of 21.7 months. Number of lifetime losses among participants ranged from 0 – 19 with a mean of 3.0. A number of variables were non-

normal in distribution. Age and Time since loss were both positively skewed and kurtotic, reflecting that the majority of participants were 18 years of age and had experienced a relatively recent loss. Number of lifetime losses was also positively skewed and kurtotic, likely for the same reason. Analysis of univariate outliers revealed a high number of outlying variables for age ($n = 18$), time since loss ($n = 35$), and number of losses ($n = 14$). In order to draw from the greatest variety of bereaved students during the scale development process and thus improve the chance of generalizability, these outlying cases were retained for further analysis. Overall, these data were consistent with the descriptive data produced by Subsample A.

Frequencies for demographic data. Frequencies were calculated for each of the categorical demographic variables gathered in this study. Frequencies are presented in the form of percentages calculated from the final sample size ($N=325$) included in the analyses. These variables included gender, ethnicity, class rank, marital status, socioeconomic status, and religious affiliation. These frequency data are presented in Table 25 below.

Table 25. Frequencies and percentages for categorical demographic variables in Subsample B.

Variable	Frequency	Percentage
Gender		
Male	74	22.8
Female	251	77.2
<i>Missing</i>	0	0
Ethnicity		
Caucasian	118	36.3
Black American	62	19.1
Asian/Asian American	53	16.3
Latino/Latina	25	7.7
Middle Eastern	8	2.5
Other	25	7.7
<i>Missing</i>	34	10.5
Class Rank		
Freshman	175	53.8
Sophomore	49	15.1
Junior	55	16.9
Senior	44	13.5
Graduate/Other	2	0.6
<i>Missing</i>	0	0
Marital Status		
Single	250	76.9
Married	3	0.9
Divorced/Separated	1	0.3
Long-Term	58	17.8
Living Together	10	3.1
<i>Missing</i>	3	0.9
Socioeconomic Status		
Low	37	11.4
Low-Middle	60	18.5
Middle	99	30.5
High-Middle	70	21.5
High	30	9.2
<i>Missing</i>	29	8.9
Religious Affiliation		
Christian	170	52.3
Muslim	16	4.9
Jewism	2	0.6
Buddhist	6	1.8
Hindu	6	1.8

Table 25 continues

Table 25 continued

Other	7	2.2
Atheist	6	1.8
Agnostic	7	2.2
None/Unaffiliated	39	12.0
<i>Missing</i>	<i>66</i>	<i>20.3</i>

As seen in Table 25, the Study B subsample was predominantly female (77.2%) to a similar degree to that of Subsample A (70.2%). The majority of the sample identified as Caucasian (36.3%), though a large portion of individuals identify as Black American (19.1%). The sample is skewed with regard to class rank as it is mostly comprised of freshmen students (53.8%). The majority of sampled individuals report being single (76.9%) and coming from a middle or high-middle class socioeconomic background (52.0%; \$50,000-\$150,000 per year combined household income). A majority of participants reported a Christian religious affiliation (52.3%), again, comparable to that of Subsample A (50.1%).

Frequencies for loss characteristics. As with Subsample A, frequencies were also calculated for important categorical loss characteristics: the circumstance of the loss and the relationship of the participant to the deceased. The frequencies for Subsample B were similar to Subsample A. These values are provided in Table 26 below. The majority of participants in the current study reported on a recent loss of an extended family member (60.0%) and a loss due to illness (72.3%).

Table 26. *Frequencies and percentages for characteristics of the loss variables in Subsample B.*

Variable	Frequency	Percentage
Circumstance of the loss		
Illness	235	72.3
Accident	50	15.4
Suicide	21	6.5
Homicide	9	2.8
Military Casualty	0	0.0
<i>Missing</i>	<i>10</i>	<i>3.1</i>
Relationship to the Deceased		
Extended Family	195	60.0
Friend	70	21.5
Other	30	9.2
Acquaintance	10	3.1
Nuclear Family	15	4.6
Significant Other	2	0.6
Spouse	0	0.0
<i>Missing</i>	<i>3</i>	<i>0.9</i>

Confirmatory factor analysis. A confirmatory factor analysis (CFA) was performed on the 56-item GCOPE scale using the AMOS 22.0 computer program. As suggested by Byrne (2001), it is beneficial to confirm a factor structure by comparing the hypothesized model (in this case a 5-factor model with correlated factors) to the independence model (a model which assumes all variables are independent with no common factors). The CFA procedure produces a number of fit indices which can be used to compare the absolute fit of the proposed model to the data as well as relative comparison to the independence model (also known as incremental fit).

Among the most commonly reported measures of absolute model fit is the chi-square statistic (Worthington & Whitaker, 2006). However, Byrne (2001) asserts that this measure is often affected by large sample sizes, resulting in a tendency to reject the goodness-of-fit of

acceptable models. Byrne (2001) therefore suggests using alternative indexes of fit as adjuncts to the chi-square statistic. One commonly-reported method is to divide the chi-square statistic by its corresponding degrees of freedom in order to correct for sample-size and model complexity (Marsh, Balla, & McDonald, 1988). Values of <5 are generally considered to represent acceptable fit (Wheaton et al., 1977) and values of <2 to represent good fit (Tabachnik & Fidell, 2007). In addition, the current study followed Worthington and Whitaker's guidelines for reporting alternative goodness-of-fit indices. They suggest to include at a minimum the chi-square test with degrees of freedom, the Comparative Fit Index (CFI), the Root-Mean-Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR).

The CFI, an incremental fit index measuring how much the hypothesized model improves fit relative to the independence model, varies from 0 to 1, with values close to 1.00 indicating excellent fit. Values greater than .90 are considered acceptable (Bentler, 1990); a more conservative .95 or greater value currently represents good fit (Hu & Bentler, 1995). The RMSEA, an absolute fit index which measures how well the hypothesized model represents the data is also frequently reported, with values of .06 or smaller representing good fit (Hu & Bentler, 1999) and values up to .08 representing reasonable fit. The SRMR measures the average error, or the distance between the hypothesized model and the data being analyzed. Values of <0.8 are considered acceptably fit for SRMR (Hu, & Bentler, 1999).

The hypothesized 5-factor model showed good fit on multiple indices of absolute fit, while showing poor fit on an index of incremental fit. The CFA analysis resulted in a

significant chi-square statistic ($\chi^2(1474) = 3403.91, p < .001$) which corresponds to an acceptable value of 2.31 when corrected for degrees of freedom. SRMR (0.072) and RMSEA (0.064; 90% confidence interval 0.061 – 0.066) were both within the acceptable range. CFI (0.78) showed poor incremental fit, leading the author to next attempt to ascertain whether the model contained any specific areas of misspecification that could be modified without violating the underlying conceptual basis of the model.

In this regard, the author examined the standardized residual covariances and modification indices to look for any clear patterns of misspecification in the model. Standardized residuals are similar to z scores and represent the difference between the hypothesized relationship between two variables and that shown by the data. Standardized residuals >2.58 are considered large and worthy of interpretation (Byrne, 2001). The current analysis revealed a total of 60 standard residual covariances (out of a total of 1596 produced during analysis or 3.8% of the residuals) that fell outside the normal range. No clear items were identified which contributed excessively to these residuals (e.g. no small number of items accounted for a large number of out of range residual covariances).

In addition to examining the standardized residual covariances, exploring the modification indexes is another way of identifying misspecification. The modification indexes (MI) reflects the estimated decrease in the overall chi-square value if a given parameter were to be freely estimated in a subsequent iteration of the model. Each MI is also associated with an expected parameter change (EPC) value, which represents the estimated change for each fixed parameter in the model. As the chi-square value in the current study was fairly large ($\chi^2(1474) = 3403.91$), the output was set to suppress MIs that were < 20 .

Eighteen MI's were identified among the covariances in the proposed model, all representing covariances between error terms which could be added to the model in an effort to improve model fit. However, although allowing error terms to covary is a common practice in model-testing, it should only be done if there is a clear theoretical reason for the errors to covary (e.g. items with similar stems) and it is not recommended that errors be allowed to covary during scale development (Worthington & Whitaker, 2006). Eighteen MI's were identified among the regression weights of the model, sixteen of which suggested regression of observed variables on each other, which is also not recommended in a CFA model. One MI (20.72; EPC = -0.41) represented a possible cross-loading between the Substance Use factor and item G190 on the Restoration factor ("Despite everything I am trying to make the best of it") but this negative crossloading would not make conceptual sense to include in the model. As no clear modifications were indicated by the MIs described above, alternative methods for improving model fit were explored.

One recommended way to improve model fit is to examine item squared multiple correlations and to remove those with low values (e.g. <0.4; Nunnally, 1978). In essence, this method helps to remove error from the model by eliminating those items which are predicted by error variance as opposed to the influence of the hypothesized factors. Twenty-nine items were identified to have low squared multiple correlations and were removed from the model, resulting in a 5-factor, 27-item version of the scale (see Table 27 below for item content; also available in Appendix K). The 27-item model showed improved model fit. The chi-square statistic remained significant ($\chi^2(314) = 697.02, p < .001$) which corresponds to an acceptable value of 2.22 when corrected for degrees of freedom. SRMR (0.057) and RMSEA (0.061;

90% confidence interval 0.055 – 0.067) both remained within the acceptable range. CFI (0.903) improved significantly and now indicated acceptable fit.

Table 27. *Items retained in the final 27-item version of the GCOPE*

Item	Item Content	Tentative Subscale Name
G99	I have difficulty concentrating	Depression/Negative Affectivity
G34	I've felt like I couldn't deal with life	
G56	I don't have motivation to do what I need to	
G38	I've gotten very angry	
G49	I've felt numb	
G126	I have withdrawn socially	
G184	I'm not as much fun as I used to be	
G64	I have lost enjoyment in some activities because they seem meaningless since my loss	
G167	I have focused on positive changes in my life	Restoration/Personal Growth
G164	I have noticed that I am stronger since my loss	
G125	I have started new relationships	
G147	I have found meaning in new relationships	
G168	I have found benefits in how my life has changed	
G122	I have been focused on new relationships	
G173	I have felt that I have changed for the better	
G180	I have focused on my religious faith	Religious Coping
G130	I have prayed more	
G181	I have asked God to help me get through this	
G2	I've been using substances (illegal drugs, unprescribed pharmaceutical medications) more than usual	Substance Use/Abuse
G10	I have started using drugs even when I am alone	
G5	I have used substances to avoid thinking about my loss	
G1	I've been drinking alcohol more than usual	
G9	I have started drinking alcohol even when I am alone	
G14	I have shared my feelings with my family	Support-Seeking/Disclosure
G118	I talk with my family when I am feeling down	
G119	I have reached out more often to my family since my loss	
G12	I've talked with others about my loss	

NOTE: Tentative subscale names were developed at this stage based on item content. Further discussion of the content of the subscales and their interpretation is available in the discussion section. Subscales are referred to by the first part of their name (e.g. Depression) for ease of reporting throughout this document.

Figure 5 below shows the standardized regression weights, factor correlations, and item squared multiple correlations.

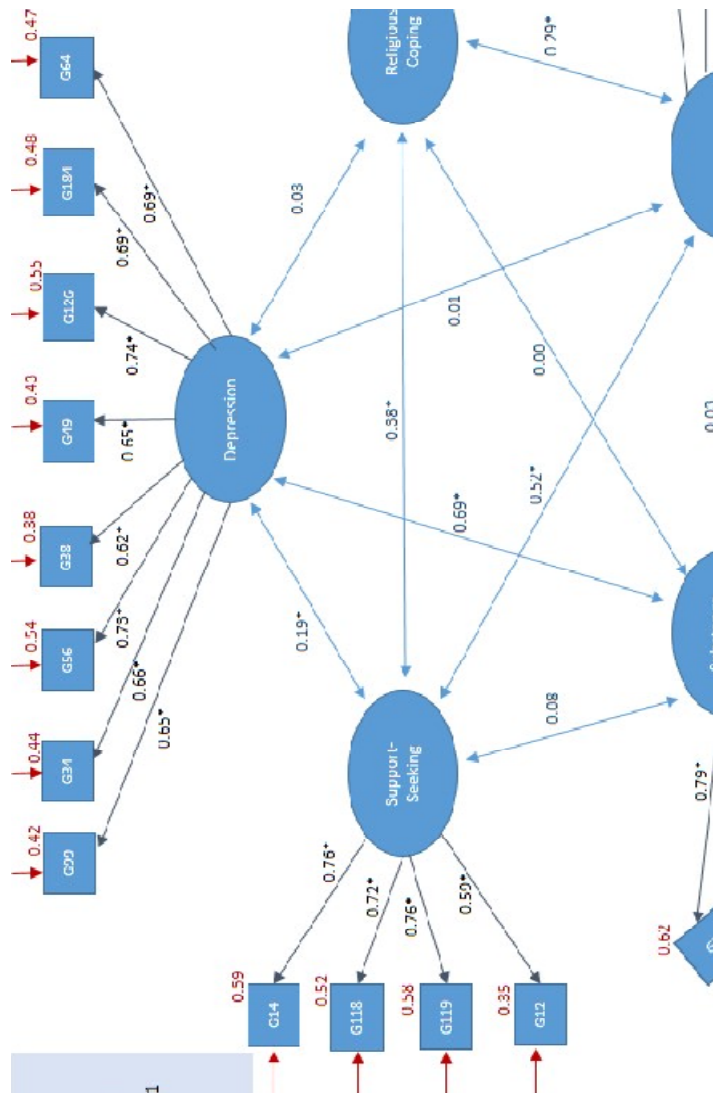


Figure 5. The structural equation model for the 27-item GCOPE.

Based on the above, this version of the GCOPE was selected as the final model, resulting in a 26-item scale consisting of 5 subscales. Descriptive statistics for the subscales are provided in the Table below. Corrected means (divided by the number of items in the subscale) are provided to facilitate comparison of participant responses on each of the subscales.

Table 28. *Descriptive statistics for the 5 subscales of the GCOPE.*

GCOPE Subscale	Min.	Max.	Mean	SD	SE	Mean/# of items	Skewness	Kurtosis
Depression	8	32	13.3	5.1	0.3	1.7	0.9	0.1
Restoration	7	28	15.8	5.2	0.3	2.3	0.3	-0.5
Religious Coping	3	12	6.5	3.1	0.2	2.2	0.4	-1.1
Substance Use	5	19	7.0	3.1	0.2	1.4	1.7	2.1
Support Seeking	4	16	8.6	3.2	0.2	2.2	0.4	-0.5

As illustrated above, corrected means for the subscales ranged from 1.4 for the Substance Use subscale, to 2.3 for the Restoration subscale. These values correspond to responses between “I haven’t been doing this at all” and “I’ve been doing this a medium amount” based on the response options in the instruction set. The Substance Abuse subscale showed significant positive skewness and kurtosis, which was to be expected as a number of the items included were known to be non-normally distributed.

Reliability. Alpha coefficients were calculated separately for each subscale of the 26-item model using SPSS software. Cronbach’s alpha is known to be sensitive to the number of items used to calculate it (Cronbach, 1951; Voss, Stem & Fotopoulos, 2000), particularly when the number of items is below 7 (Swales, & McIntyre-Bhatty, 2002). For this reason, the average interitem correlation was also computed for each subscale. Internal consistencies were strong for all 5 factors, and average interitem correlations were in the moderate to large range, suggesting a good mix of internal consistency and discreteness between items. Table below provides the internal consistency estimates for each factor.

Table 29. *Internal consistency estimates for the five factors*

Factor	# of Items	Alpha	Mean IIC	Min IIC	Max IIC
Depression	8	0.87	0.46	0.32	0.59

Restoration	7	0.86	0.47	0.34	0.63
Religious Coping	3	0.87	0.67	0.66	0.71
Substance Use	5	0.86	0.55	0.46	0.66
Support-Seeking	4	0.80	0.50	0.33	0.60

Note: IIC = Inter-item correlation

Convergent and divergent validity. Hypotheses 3 and 4 of the current study relate to further aspects of the construct validity of the GCOPE. Construct validity, in this case, refers to the extent to which individuals' scores on a measure reflect the true amount of a hypothetical construct that the person possesses (e.g. Whitley, 2002). In the current study, construct validity was initially established through the exploratory and confirmatory factor analysis process. Further evidence for construct validity can be provided by demonstrating that the measure of interest is correlated in expected directions with other validated measures of similar constructs, and that it is not correlated with measures that it would not be expected to be correlated with. The criteria used in the current study were two commonly-used measures coping checklists: the Brief COPE and the Brief RCOPE for Grief. With the GCOPE factors now defined, it was possible to generate more specific hypotheses regarding the relationships between GCOPE subscales and subscales of the RCOPE and Brief COPE:

- 1) The Religious Coping subscale of the GCOPE is expected to be significantly positively correlated with Adaptive Religious Coping and negatively correlated with Maladaptive Religious Coping Subscales of the RCOPE. The Religious Coping subscale of the GCOPE is also expected to be significantly positively correlated with the Religion subscale of the Brief Cope.
- 2) The Substance Use subscale of the GCOPE is expected to have a significant positive correlations with the Substance Use subscale of the Brief Cope.

- 3) The Support-Seeking subscale of the GCOPE is expected to be significantly positively correlated with the Use of Emotional Support and Use of Instrumental Support subscales of the Brief Cope.
- 4) The Restoration subscale of the GCOPE is expected to be positively related with the Positive Reframing subscale of the Brief Cope.
- 5) The Depression Subscale of the GCOPE is expected to be positively correlated with the Self-Blame, and Behavioral Disengagement subscales of the Brief Cope.

Table 30 below shows the bivariate correlations between the subscales of the GCOPE and the subscales of the RCOPE and the Brief COPE. The Religious coping subscale demonstrated the expected positive association with Adaptive Religious Coping on the RCOPE ($r = 0.74$) with a correlation high enough to call into question the distinctness of the two constructs. The Religious Coping Subscale was uncorrelated with the Maladaptive Religious Coping subscale of the RCOPE ($r = -0.02$) which makes conceptual sense as the ARC and MRC subscales were specifically designed to be uncorrelated (Lord & Gramling, 2014) and the Religion subscale of the GCOPE is highly correlated with ARC. The Religion subscale of the GCOPE showed a similar level of correlation with the Religion subscale of the Brief COPE ($r = 0.78$). Overall, these data suggest that the ARC subscale of the Brief RCOPE for grief, the Religion subscale of the Brief COPE and the Religious Coping subscale of the GCOPE are all tapping the same construct: positive/adaptive religious coping. The Religious Coping subscale also showed significant low to moderate positive correlations with other subscales of the Brief COPE. Specifically, small but significant associations with Active Coping ($r = 0.17$), Emotional Support ($r = 0.21$), Instrumental Support ($r = 0.28$),

Self-Distraction ($r = 0.13$), Positive Reframing ($r = 0.28$), and Planning ($r = 0.22$) were noted.

The Substance Use subscale of the GCOPE showed the expected positive relationship with the Substance Use subscale of the Brief COPE ($r = 0.75$). Again, the relationship was strong enough to suggest that the two measures are tapping the same construct as opposed to tapping related but distinct constructs. The Substance Use subscale also showed additional positive relationships with selected subscales of the Brief RCOPE for Grief and the Brief COPE. Small correlations were noted between the Substance Abuse subscale and MRC from the RCOPE ($r = 0.28$) as well as Self-Distraction ($r = 0.18$) and Denial ($r = 0.27$) from the Brief COPE. Medium correlations were noted between the Substance Abuse subscale and Behavioral Disengagement ($r = 0.47$), Venting ($r = 0.31$), Humor ($r = 0.34$), and Self-Blame ($r = 0.36$) subscales of the Brief COPE.

[illegible]

155

Self-Distraction ($r = 0.32$), Active Coping ($r = 0.30$), Venting ($r = 0.35$), Positive Reframe ($r = 0.42$), Planning ($r = 0.39$), and Religious Coping ($r = 0.30$).

The Restoration subscale of the GCOPE demonstrated the expected positive relationship with the Positive Reframing ($r = 0.47$) subscale of the Brief COPE. It also showed moderate correlations with the Planning ($r = 0.40$), Acceptance ($r = 0.34$), and Active Coping ($r = 0.37$) subscales of the Brief Cope. Further moderate positive relationships were demonstrated between the Restoration subscale of the GCOPE and the Emotional Support ($r = 0.47$) and Instrumental Support ($r = 0.44$) subscales of the Brief COPE. Additional small correlations were noted with Adaptive Religious Coping ($r = 0.14$), Self-Distraction ($r = 0.24$), Venting ($r = 0.17$), and Religious Coping ($r = 0.19$).

Finally, the Depression subscale of the GCOPE showed the expected positive associations with the Denial ($r = 0.40$), Self-Blame ($r = 0.57$), and Behavioral Disengagement ($r = 0.58$) subscales of the Brief Cope. Additional moderate correlations were noted with Venting ($r = 0.52$), and Substance Abuse ($r = 0.50$) on the Brief COPE and MRC on the Brief RCOPE for Grief ($r = 0.28$). Smaller but significant correlations were noted between Depression and Emotional Support ($r = 0.20$), Instrumental Support ($r = 0.19$), Planning ($r = 0.19$), and Humor ($r = 0.26$).

In summary, relationships with related constructs were demonstrated to be positive and significant in all cases. In the case of the Religious Coping and Substance Abuse subscales, the correlations with subscales and the Brief RCOPE and/or Brief Cope were large enough to suggest that the measures were tapping the same construct as opposed to distinct but related constructs. A number of additional significant correlations were also noted which

were likely related to the high number of intercorrelations between the use of coping strategies in general. This is explored further in the discussion section.

Criterion-related/incremental validity. The final hypotheses in the current study (listed below) were related to incremental validity. Generally speaking, the GCOPE was hypothesized to uniquely predict relevant outcome variables (i.e., spiritual wellbeing, grief symptoms, meaning-made, and perceptions of physical health) above and beyond the influence of demographic variables (i.e., gender and age) and characteristics of the loss (i.e., time elapsed since the loss, closeness to the deceased at the time of the loss, level of grief at the time of the loss, and the circumstance of the loss). After settling on the 26-item, 5-factor model of the GCOPE, these hypotheses were further refined to reflect the specific content of each subscale:

Hypothesis 5. The final scale and/or its subscales, will uniquely predict spiritual wellbeing as measured by the SWBS. Religious Coping, Restoration, and Support-Seeking will demonstrate a positive relationship with this outcome, such that increased self-reported use of these coping strategies predicts increased spiritual wellbeing. The Depression and Substance Use subscales are hypothesized to have a significant inverse relationship with spiritual wellbeing.

Hypothesis 6. The final scale and/or its subscales will uniquely predict meaning-made, as measured by the ISLES. Religious Coping, Restoration, and Support-Seeking will demonstrate a positive relationship with this outcome, such that increased self-reported use of these coping strategies predicts increased meaning-

made. The Depression and Substance Use subscales are hypothesized to have a significant inverse relationship with meaning made.

Hypothesis 7. The final scale and/or its subscales will uniquely predict overall health as measured by subscales from the SF-20. Religious Coping, Restoration, and Support-Seeking will demonstrate a positive relationship with self-rated health, such that increased self-reported use of these coping strategies predicts increases in participants' self-rated health. The Depression and Substance Use subscales are hypothesized to have a significant inverse relationship with self-rated health.

Hypothesis 8. The final scale and/or its subscales will uniquely predict grief symptoms, as measured by the ICG. Religious Coping, Restoration, and Support-Seeking will demonstrate a negative relationship with this outcome, such that increased self-reported use of these coping strategies predicts decreased grief symptoms. Depression and Substance use subscales are hypothesized to show the opposite relationship, with increased self-reported use of these coping strategies being associated with increased grief symptoms.

First, the criterion-related validity of the subscales was tested using bivariate

	GDep	GRelig	GRestore	GSupport	GSubstance	Grief	Meaning-Made	Spiritual Wellbeing	SR Health
GDep	1								
GRelig	.037	1							
GRestore	.008	.264	1						
GSupport	.171	.317	.457	1					
GSubstance	.595	.003	.024	.070	1				
Grief	.502	.074	.021	.106	.254	1			
Meaning Made	-.566	-.008	.064	-.018	-.377	-.618	1		
Spiritual Wellbeing	-.346	.646	.165	.176	-.288	-.200	.295	1	
Self-Rated Health	-.478	.114	.163	-.015	-.274	-.251	.380	.398	1

Bolded values significant at $p < 0.01$

correlations (see Table 31 below). Correlations between the five subscales of the GCOPE and the outcomes of interest were tested to ascertain whether the basic patterns of relationships between the variables were consistent with hypotheses, and to inform the models used in later tests of incremental validity.

Table 31. *Bivariate correlations between GCOPE subscales and outcome variables*

As shown above, mixed results were found regarding the criterion-related validity of GCOPE subscales. With regard to Spiritual Wellbeing, as measured by the Spiritual Wellbeing scale, the expected positive associations with Religious Coping ($r = 0.65$), Restoration ($r = 0.17$) and Support-Seeking ($r = 0.18$) were all present. Additionally, the expected negative associations with Depression ($r = -0.35$) and Substance Use ($r = -0.29$) were also demonstrated. Similarly, Self-rated health, as measured by an item from the SF-20, demonstrated the expected pattern of correlations with all subscales of the GCOPE except for the Support-Seeking subscale. Support-Seeking was uncorrelated with Self-rated health, but Religious Coping ($r = 0.11$) and Restoration ($r = 0.16$) each showed modest but significant correlations with participants self-reported perceptions of their health. Depression ($r = -0.48$) and Substance Use ($r = -0.27$) each showed the expected significant inverse relationship with Self-rated health.

In contrast, Meaning-Made, as measured by the ISLES, showed only the expected negative associations with Depression ($r = -0.57$) and Substance Use ($r = -0.38$). ISLES scores were uncorrelated with participants' self-reported use of Religious Coping,

Restoration, or Support-Seeking. Grief, as measured by the ICG, showed a similar pattern: Grief was uncorrelated with Restoration, Religious Coping, or Support-Seeking, but showed the expected association with Depression ($r = 0.50$) and Substance Use ($r = 0.25$).

Based on the above, these relationships were then tested more stringently using a series of four hierarchical regression models, one for each outcome of interest. In each model the first step contained gender (which was dummy coded in SPSS with female gender as the reference group) and age. The second step contained variables related to the type of loss, including time elapsed since the loss occurred, closeness to the deceased at the time of the loss, level of grief at the time of the loss, and the circumstance of the loss. Due to the relatively high frequency of losses to illness, and the relative low frequency of losses related to accident, homicide, or suicide, the circumstance of the loss variable was recoded into two groups: Non-violent loss (i.e., loss due to illness) and Violent loss (i.e., loss due to accident, homicide, military casualty or suicide) with Non-Violent loss as the reference group.

The subscale scores for four of the five GCOPE subscales were entered at the third step. At this point, the decision was made not to include the Depression subscale as a variable in these analyses for the following reasons: 1) conceptually, the majority of items on the depression subscale were more related to outcomes (e.g. difficulty concentrating, anhedonia) as opposed to coping strategies 2) the Depression subscale was quite highly correlated with the Substance Abuse subscale (0.60) and 3) Depression was highly correlated with the primary outcome of interest (i.e. Grief as measured by the ICG), leading to concerns that the presence of this variable could “wash out” the influence of the other subscales.

Finally, based on the performance of the Religious Coping, Support-Seeking, and Restoration subscales, the author was interested whether these coping strategies might be more important for some of the bereaved than others. Some authors have suggested that those who have undergone violent or traumatic losses may benefit from meaning-centered coping strategies such as reliance on religious beliefs, the support of others, or benefit-finding (e.g. Mathews, & Marwit, 2003; 2006). To test this hypothesis, the author tested for an interaction effect between each of the named subscales and circumstance of loss (violent vs. nonviolent) at the fourth step of the hierarchical regression model. Variables being used in the interaction (i.e. Religious Coping, Support Seeking, and Restoration) were centered in order to avoid issues with collinearity.

Prior to conducting a hierarchical multiple regression, the relevant assumptions of this statistical analysis were tested. With regard to sample size, each hierarchical regression model contained 13 predictors. With a sample size of 325, the cases to predictor ratio of 25 is well above the minimum ratio suggested in the literature (Tabachnick & Fidell, 2007). The assumption of singularity was also met as none of the IVs was a combination of other independent variables. An examination of correlations (see Table above) revealed that no independent variables were highly correlated (i.e. >0.7). As the collinearity statistics (i.e., Tolerance and VIF) were all within accepted limits, the assumption of multicollinearity was deemed to have been met. Univariate outliers were present for some of the demographic variables (see Descriptives) but were included in analysis as explained above. An examination of the Mahalanobis distance scores indicated no multivariate outliers.

Table 32 below shows the results for the hierarchical regression model with Grief (as measure by total score on the ICG) as the dependent variable. As demonstrated below, the first step of the model was non-significant ($F(2, 322) = 1.32, p = 0.27$) and neither gender nor age were significant predictors of grief symptoms. Step 2 of the model achieved significance ($F(6, 318) = 6.50, p < .001$) with type of loss (violent vs. nonviolent) and grief at the time of the loss both significantly predicting grief symptoms. At Step 3, the model remained significant ($F(10, 314) = 7.28, p < .001$) with a significant change in r^2 ($0.80, p < .001$) for a total $r^2 = 0.16$. The Substance Use subscale of the GCOPE was the only significant predictor of grief symptoms ($\beta = 0.25, t(324) = 4.95, p < 0.001$). Step four failed to show a significant change in r^2 , which failed to confirm the hypothesis that Religious Coping, Restoration, and Support Seeking would show a greater relationship with grief symptoms among those who had suffered a traumatic loss.

Table 32. *Hierarchical regression model with Grief as the dependent variable*

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>	Total R^2	ΔR^2	<i>p</i>
Grief (DV)							
Step 1					0.01	0.01	0.27
Gender	2.60	1.62	0.09	0.11			
Age	-0.09	0.30	-0.02	0.77			
Step 2					0.11	0.10	<0.001
Closeness	0.51	0.55	0.05	0.35			

Type of Loss	4.90	1.50	0.17	0.001			
Grief at Time	-2.93	0.57	-0.29	<0.001			
Time since Loss	-0.01	0.03	-0.03	0.58			
Step 3					0.19	0.08	<0.001
GCOPE Religious Coping	0.19	0.26	0.05	0.45			
GCOPE Restoration	-0.13	0.16	-0.05	0.43			
GCOPE Support Seeking	0.44	0.26	0.11	0.10			
GCOPE Substance Use	1.00	0.21	0.25	<0.001			
Step 4					0.19	0.00	0.97
GCOPE Religious Coping x Loss Type	-0.03	0.49	-0.00	0.95			
GCOPE Restoration x Loss Type	0.11	0.32	0.02	0.73			
GCOPE Support Seeking x Loss Type	-0.26	0.55	-0.03	0.64			

Table 33 below shows the results for the hierarchical regression model with Meaning-Made as the dependent variable.

Table 33. *Hierarchical regression model with Meaning-Made as the dependent variable*

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>	Total <i>R</i> ²	ΔR^2	<i>p</i>
Meaning Made (DV)							
Step 1					0.01	0.01	0.43
Gender	-1.93	1.56	-0.07	0.22			

Age	0.11	0.29	0.02	0.70			
Step 2					0.04	0.05	0.002
Closeness	-0.84	0.56	-0.09	0.13			
Type of Loss	-4.54	1.52	-0.17	0.003			
Grief at Time	0.93	0.58	0.10	0.11			
Time since Loss	0.04	0.03	0.08	0.17			
Step 3					0.18	0.15	<0.001
GCOPE Religious Coping	-0.13	0.21	-0.03	0.54			
GCOPE Restoration	0.15	0.13	0.07	0.30			
GCOPE Support Seeking	-0.06	0.22	-0.02	0.79			
GCOPE Substance Use	-1.45	0.19	-0.38	<0.001			
Step 4					0.18	0.00	0.75
GCOPE Religious Coping x Loss Type	0.17	0.46	0.02	0.71			
GCOPE Restoration x Loss Type	-0.23	0.30	-0.05	0.44			
GCOPE Support Seeking x Loss Type	0.45	0.53	0.06	0.40			

Similarly to the results found for grief symptoms, the first step of the model was non-significant ($F(2, 322) = 0.83, p = 0.44$). Neither gender nor age were significant predictors of meaning-made. Step 2 was significant ($F(6, 318) = 3.24, p < .01$) with a significant change in $r^2(0.05, p < .01)$. Type of loss was a significant predictor of meaning-made ($\beta = -0.17, t(324) = -2.98, p < 0.01$). Those who suffered a nonviolent loss reported greater meaning made ($M = 61.2; SD = 12.2$) than those who suffered a violent loss ($M = 56.0; SD = 11.2$). At Step 3, the model remained significant ($F(10, 314) = 8.10, p < .001$) with a significant change in $r^2(0.15, p < .001)$ for a total $r^2 = 0.18$. The Substance Use subscale of the GCOPE was once again the only significant predictor of the outcome variable ($\beta = -0.38, t(324) = -7.49,$

$p < 0.001$). Step four failed to show a significant change in r^2 , and therefore failed to confirm the hypothesis that Religious Coping, Restoration, and Support Seeking would should a greater relationship with meaning-made among those who had suffered a traumatic loss.

A summary of the hierarchical regression model with Spiritual Wellbeing as the dependent variable is illustrated in Table 34. In this case, the first step of the model was significant ($F(2, 322) = 8.03, p < .001$), explaining approximately 4% of the variance in Spiritual Wellbeing ($r^2 = 0.04$). Gender was a significant predictor of Spiritual Wellbeing ($\beta = -0.21, t(324) = -3.81, p < 0.001$), such that females ($M = 87.77, SD = 19.93$) reported significantly higher Spiritual Wellbeing than did males ($M = 77.78, SD = 20.37$). At the second step, the model remained significant but failed to show a significant change in r^2 ($0.06, p = 0.07$). Step 3 showed a large significant change in r^2 ($r^2 \text{ change} = 0.45, p < .001$) for a total $r^2 = 0.50$. Both Religious Coping ($\beta = 0.63, t(324) = 14.75, p < 0.001$) and Substance Use ($\beta = -0.28, t(324) = -7.05, p < 0.001$) significantly predicted Spiritual Wellbeing. Step four failed to show a significant change in r^2 , and therefore failed to confirm the hypothesis that Religious Coping, Restoration, and Support Seeking would should a greater relationship with spiritual wellbeing among those who had suffered a violent loss

Table 34. *Hierarchical regression model with Spiritual Wellbeing as the dependent variable*

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>	Total R^2	ΔR^2	<i>p</i>
Spiritual Wellbeing (DV)							
Step 1					0.04	0.05	<0.001
Gender	-10.1	2.65	-0.21	<0.001			
Age	0.66	0.49	0.07	0.18			

Step 2					0.06	0.03	0.07
Closeness	-0.31	0.96	-0.02	0.75			
Type of Loss	-3.39	2.62	-0.07	0.20			
Grief at Time	-2.04	1.01	-0.12	0.04			
Time since Loss	0.05	0.04	0.06	0.30			
Step 3					0.50	0.45	<0.001
GCOPE Religious Coping	4.12	0.28	0.63	<0.001			
GCOPE Restoration	0.02	0.18	0.01	0.92			
GCOPE Support Seeking	-0.08	0.30	-0.01	0.79			
GCOPE Substance Use	-1.85	0.26	-0.28	<0.001			
Step 4					0.50	0.00	0.43
GCOPE Religious Coping x Loss Type	0.21	0.63	0.02	0.74			
GCOPE Restoration x Loss Type	-0.12	0.41	-0.01	0.78			
GCOPE Support Seeking x Loss Type	1.0	0.71	0.07	0.16			

Table 35 below shows the results for the hierarchical regression model with Self-Rated Health as the dependent variables.

Table 35. *Hierarchical regression model with Self-Rated Health as the dependent variable*

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>	Total <i>R</i> ²	ΔR^2	<i>p</i>
Self-Rated Health (DV)							

Step 1					0.00	0.01	0.32
Gender	3.83	2.69	0.08	0.16			
Age	-0.28	0.50	-0.03	0.57			
Step 2					0.01	0.03	0.09
Closeness	-1.81	0.97	-0.11	0.06			
Type of Loss	-5.04	2.67	-0.11	0.06			
Grief at Time	-0.01	1.02	-0.00	0.99			
Time since Loss	-0.02	0.05	-0.02	0.74			
Step 3					0.13	0.12	<0.001
GCOPE Religious Coping	0.73	0.37	0.11	0.05			
GCOPE Restoration	0.65	0.24	0.17	0.01			
GCOPE Support Seeking	-0.59	0.39	-0.09	0.14			
GCOPE Substance Use	-1.94	0.35	-0.30	<0.001			
Step 4					0.15	0.03	0.01
GCOPE Religious Coping x Loss Type	1.68	0.81	0.13	0.04			
GCOPE Restoration x Loss Type	-0.64	0.53	-0.08	0.23			
GCOPE Support Seeking x Loss Type	1.81	0.92	0.13	0.05			

As with grief symptoms and meaning-made, step 1 of the model was non-significant ($F(2, 322) = 1.16, p = 0.32$), suggesting that demographic factors did not significantly influence self-rated health in the current sample. At step 2 the model remained non-significant, ($F(6, 318) = 1.76, p = 0.11$), suggesting that characteristics of the loss experience were not significant predictors of self-rated health in the current sample either. However, there were non-significant trends for both closeness to the deceased ($\beta = -0.11, t(324) = -1.86$,

$p = 0.06$) and the type of loss ($\beta = -0.11$, $t(324) = -1.89$, $p = 0.06$). Closeness to the deceased showed a trend toward an inverse relationship with self-rated health, such that individuals who were closer to the deceased tended to have lower self-rated health. For type of loss, there was a trend such that those who had suffered a violent loss ($M = 64.52$, $SD = 22.15$) having lower self-rated health than those who had suffered a nonviolent loss ($M = 70.17$, $SD = 19.66$).

Step 3 of the model achieved significance ($F(10, 314) = 5.78$, $p < .001$), accounting for approximately 13% of the variance in self-rated health ($r^2 = 0.13$). Three GCOPE subscales, Religious Coping ($\beta = 0.11$, $t(324) = -1.98$, $p < 0.05$), Restoration ($\beta = 0.17$, $t(324) = -2.74$, $p < 0.01$), and Substance Abuse ($\beta = -0.30$, $t(324) = -5.64$, $p < .001$) showed significant relationships with self-rated health. When interaction effects were added in at Step 4, there was a small but statistically significant change in the amount of variance explained (r^2 change = 0.03, $p = .01$) resulting in a total $r^2 = 0.15$. Interactions between type of loss and Religious Coping ($\beta = 0.13$, $t(324) = -2.06$, $p < 0.05$) and type of loss and Support Seeking ($\beta = 0.13$, $t(324) = -1.97$, $p = 0.05$) were significant. The scatterplot in Figure 6 below shows regression lines for the effect of religious coping on health for participants who have suffered a violent and a nonviolent loss.

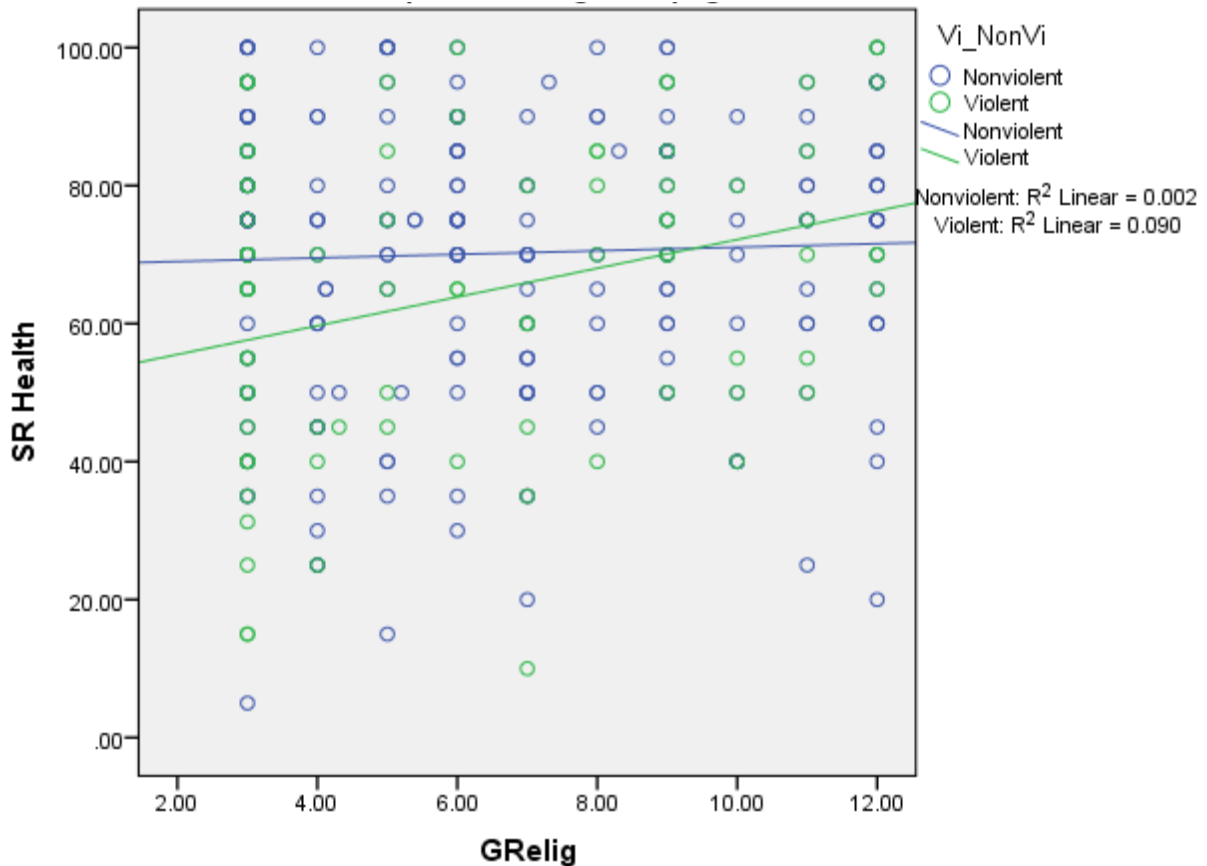


Figure 6. Scatterplot of the interaction effect of type of loss on the relationship between religious coping and self-rated health.

Based on this scatterplot, it appears that there is an interaction effect such that religious coping has a greater impact on self-rated health for those who have suffered a violent loss than for those who have suffered a nonviolent loss. In Figure 7 below, a similar interaction emerged for Support-Seeking coping, such that Support-Seeking coping had a small positive association with self-rated health only among those who had suffered a violent loss. These data support the relevance of these subscales of the GCOPE in terms of their ability to show differential outcomes for different types of losses in the expected directions.

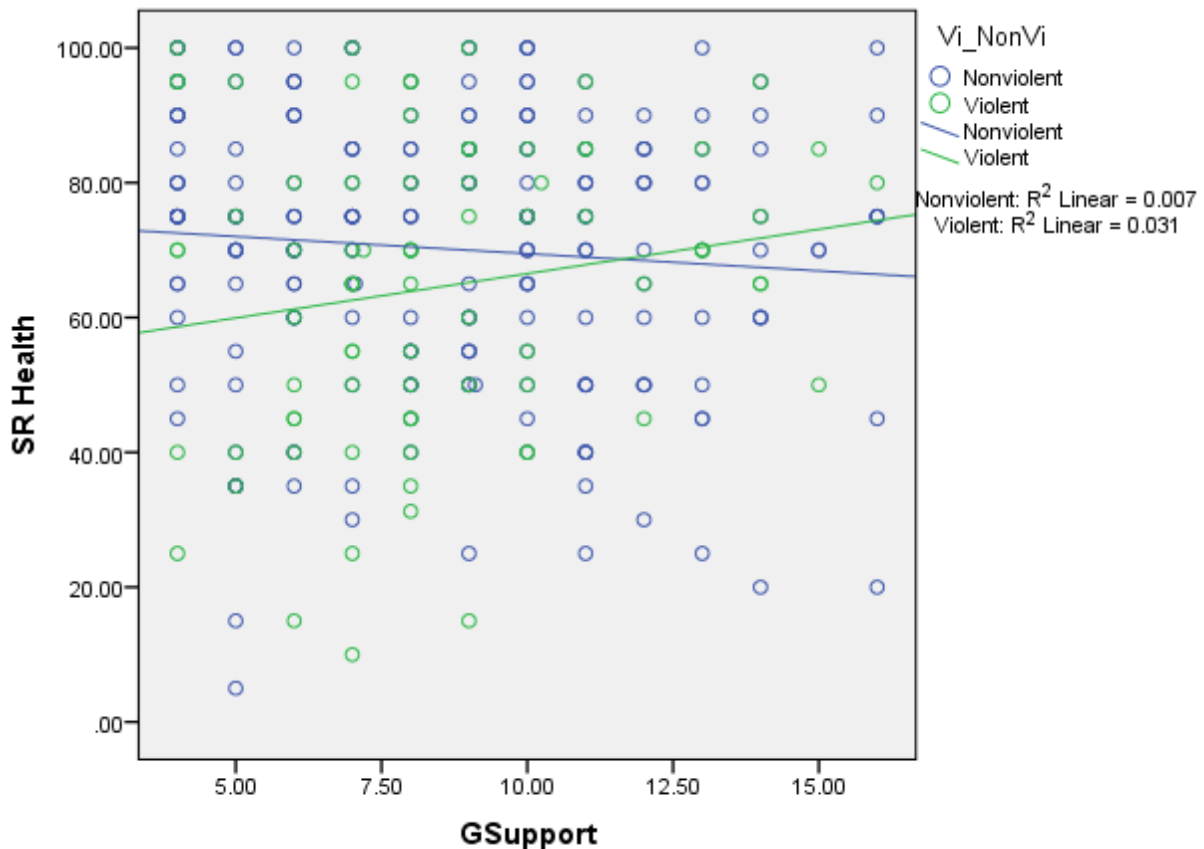


Figure 7. Scatterplot of the interaction effect of type of loss on the relationship between support-seeking and self-rated health.

Predictive validity through known-groups validation. One additional method for demonstrating predictive validity is known-groups validation. This type of validity is related to a scale's ability to separate members of one group from another group based on their scores on a measure or its subscales (DeVellis, 2003). In the current study the author was interested in the ability of the GCOPE to differentiate between those participants who were coping in a maladaptive manner and those who were coping more adaptively. In this regard, participants were separated into two groups based on their total scores on the ICG. A cut-off score of 25 has been used in the literature (e.g. Prigerson et al., 1995) to separate those who are at risk for maladaptive reactions (i.e. complicated or prolonged grief) from those who are not. In Subsample B, 206 participants were below the cut-off (i.e., had total ICG scores of 24 or

below) and 107 participants had scores above the cut-off (i.e., ICG scores of 25 or greater). Five independent samples t-tests were then performed to analyze whether these groups differed significantly in their endorsement of items on the five GCOPE subscales.

The first t-test compared mean scores on the GCOPE Depression subscale. Levene's Test was significant ($p < .01$) indicating that equal variances could not be assumed. T-test analysis was therefore interpreted using the "equal variances not assumed" feature in SPSS. The results were significant $t(187.26) = -4.72, p < .01$, indicating that participants above the cut-off for CG had higher Depression scores ($M = 16.43, SD = 5.11$) than those who scored below the cut-off ($M = 11.71, SD = 4.36$).

The second t-test compared mean scores on the GCOPE Religious Coping subscale. Levene's Test was non-significant ($p = 0.14$) indicating that equal variances could be assumed. T-test analysis was therefore interpreted normally. The results were non-significant $t(311) = -1.63, p = 0.10$, indicating that participants did not differ in their endorsement of Religious Coping strategies.

The third t-test compared mean scores on the GCOPE Restoration subscale. Levene's Test was non-significant ($p = 0.25$) indicating that equal variances could be assumed. The results were non-significant $t(311) = -0.3, p = 0.77$, indicating that participants did not differ in their endorsement of Restoration strategies.

The fourth t-test compared mean scores on the GCOPE Support-Seeking subscale. Levene's Test was non-significant ($p = 0.61$) indicating that equal variances could be assumed. The results were significant $t(311) = -1.94, p = 0.05$ indicating that individuals who were at

risk for CG endorsed greater use of Support-Seeking ($M = 9.10$, $SD = 3.12$) than those who scored below the cut-off ($M = 8.38$, $SD = 3.20$).

The fifth t-test compared mean scores on the GCOPE Substance Use subscale. Levene's Test was significant ($p < .01$) indicating that equal variances could not be assumed. T-test analysis was therefore interpreted using the "equal variances not assumed" feature in SPSS. The results were significant $t(194.73) = -2.92$, $p < .01$, indicating that participants above the cut-off for CG had greater endorsement of Substance Use over the past two weeks ($M = 7.66$, $SD = 3.28$) than those who scored below the cut-off ($M = 6.56$, $SD = 2.93$).

A test of oscillation in the Dual Process Model of grief. Although the factor structure did not directly support the structure proposed by the Dual Process Model, one primary feature of the model, oscillation, was judged to be worth testing in the current study. Specifically, the DPM posits that an individual's use of coping strategies should shift over time (although the specific timeline and frequency of these shifts is not suggested in DPM theory). In statistical terms, this aspect of the DPM can be stated as a form of moderation such that the influence of GCOPE subscales on grief symptoms is strengthened or attenuated based on the time that has elapsed since the loss.

Based on the content of the four GCOPE subscales (depression, which consisted primarily of items that conceptually resembled outcomes as opposed to coping behaviors, was excluded from analysis), the following hypotheses were generated: a) Substance abuse would not show a significant interaction with time, and was instead expected to consistently show a strong positive relationship with grief severity, and b) Religion, Restoration, and Support-Seeking were expected to have stronger negative relationships with grief symptoms across

time. The first hypothesis was generated rationally. The second set of hypotheses was partly based on the qualitative data collected in Study 1, where participants reported a pattern of initially withdrawing from support before later engaging with family and close friends.

Based on the pattern of results found in the regression models above, the current model was simplified to include only those variables which were likely to significantly predict grief symptoms along with the variables expected to interact with each other. In this regard, step 1 included three characteristics of the loss: type of loss, time since loss, and grief at the time of the loss. Step 2 included the four GCOPE subscales of interest. Step 3 contained 4 interactions terms: one for the interaction of each GCOPE subscale of interest with time. A summary of the results of the regression model is presented in Table 36 below. The first step of the model was significant ($F(3, 321) = 10.94, p < .001$), explaining approximately 8% of the variance in grief symptoms ($r^2 = 0.08$). Type of loss ($\beta = 0.15, t(324) = -2.85, p = .005$) and grief at the time of the loss ($\beta = -0.25, t(324) = -4.70, p < .001$) both significantly predicted grief symptoms. The second step of the model showed a significant change in variance explained ($r^2 \text{ change} = 0.08, p < .001$) resulting in a total $r^2 = 0.16$. Only Substance Abuse significantly predicted grief symptoms at this step ($\beta = 0.27, t(324) = 5.18, p < .001$), although Support Seeking showed a non-significant trend toward a positive association with grief symptoms ($\beta = 0.10, t(324) = 1.69, p = 0.09$).

Table 36. *Hierarchical regression model testing for interaction effects of time since loss on coping strategies*

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>	Total R^2	ΔR^2	<i>p</i>
Grief (DV)							
Step 1					0.08	0.09	<0.001
Type of Loss	4.37	1.54	0.15	0.005			
Grief at Time	-2.57	0.55	-0.25	<0.001			
Time since Loss	-0.01	0.03	-0.01	0.82			
Step 2					0.16	0.08	<0.001
GCOPE Religious Coping	0.12	0.22	0.03	0.58			
GCOPE Restoration	-0.09	0.14	-0.04	0.51			
GCOPE Support Seeking	0.39	0.23	0.10	0.09			
GCOPE Substance Use	1.05	0.20	0.27	<0.001			
Step 4					0.17	0.02	0.08
GCOPE Substance Abuse x Time	-0.01	0.01	-0.18	0.18			
GCOPE Religious Coping x Time	0.01	0.01	0.13	0.08			
GCOPE Restoration x Time	0.01	0.01	0.18	0.05			
GCOPE Support Seeking x Time	-0.02	0.01	-0.18	0.03			

The final step of the model failed to show a significant change in variance explained, although it did approach significance (r^2 change = 0.02, $p = 0.08$). Additionally, the interactions between Support Seeking and time and Restoration Coping and Time both showed potentially significant interactions with grief symptoms. These interactions could not be interpreted due to the failure of the model to show a significant change in r^2 . These results fail to confirm the hypothesis that a linear moderating effect for time on the relationship between GCOPE subscales and grief symptoms exists.

Discussion

The aims of Study 2 were related to the overarching goal of the current study: the creation of a valid measure of the coping strategies used by bereaved college students (the *GCOPE*). More specifically, it was hypothesized that the final measure would have a factor structure and item content which was consistent with the DPM. The DPM posits that individuals who are coping with bereavement oscillate between two types of coping strategies: coping strategies aimed at managing emotions and memories directly related to the loss (loss-focused coping), and coping strategies aimed at life disruptions secondary to the loss such as changes in identity, practical concerns, and forming new relationships (restoration-focused coping). In this regard, the aims of Study 2 were to 1) discern the factor structure underlying the items generated in Study 1 through the use of maximum-likelihood analysis 2) provide confirmatory evidence for the reliability of the factor structure through the use of confirmatory factor analysis and 3) provide evidence for the validity of the measure by analyzing its relationships with similar measures and outcomes of interest. Due to the numerous analyses conducted in the current study, this discussion is divided into several subsections. The author first briefly reviews characteristics of the two subsamples in the context of what is known about bereaved college students in the literature. The author then reviews the primary findings of exploratory factor analysis, including the interpretation of the factors and the implications of these findings in the context of the literature. Next, the author reviews the results of confirmatory testing and compares these results with those of the Hogan Grief Reaction Checklist (Hogan et al., 2001). Results of validity testing are then outlined and interpreted. The final section of this discussion highlights the limitations of Study 2.

Characteristics of the sample. Before discussing the results of Study 2, it is important to briefly discuss the characteristics of the current sample, as the results only generalize inasmuch as they are representative of the population of interest (i.e. bereaved college students). It is particularly important to be consistent with the types of loss that students tend to experience and the relationships of the students to the deceased, as these characteristics of the loss experience may impact the way that individuals cope (e.g. Cleiren, 1991; Mathews, & Marwit, 2003). The literature suggests that the majority of bereaved college students report having lost a grandparent/extended family member or a friend (in the current study, grandparent was included in the “extended family” category in order to reduce the number of response options and improve clarity). For example, Balk (1997) completed a descriptive study across 5 semesters at a University and found that of 994 students sampled, 81.8% of the bereaved reported having lost a grandparent and 59.8% reported the loss of a friend, while 20% reported the death of immediate family members. The primary causes of death for these students were reported as illness and accident. Balk, Walker, and Baker (2010) conducted a follow-up study which had the added rigor of gathering a random sample of college students (both bereaved and not). In that sample, loss of a friend and grandparent/extended family member were the most commonly reported losses, and the majority of students reported that their losses were due to illness.

The results from these two studies are consistent with the demographic information across Subsample A and Subsample B. In Study 2, the majority of participants reported having lost an extended family member (Subsample A: 56.5%; Subsample B: 60.0%) with the second most common loss being a friend (Subsample A: 21.6%; Subsample B: 21.5%). Causes of death were also consistent with both Balk (1997) and Balk, Walker, and Baker

(2010). The majority of participants reported a loss due to illness (Subsample A: 68.3%; Subsample B: 72.3%), with a minority reporting losses due to accident (Subsample A: 15.2%; Subsample B: 15.4%), homicide (Subsample A: 5.3%; Subsample B: 2.8%), or suicide (Subsample A: 6.7%; Subsample B: 6.5%). These results provide evidence that the sample obtained in Study 2 is representative of the bereavement experiences described by college students in other studies in terms of who participants have lost and how the deaths occurred.

However, the number of traumatic losses (e.g. homicides and suicides) was relatively low in the current study. Although this appears to be a true representation of the mosaic of college student loss experiences, it still calls into question the generalizability of these results to students who have suffered traumatic losses. Indeed, the analyses conducted to test for incremental validity showed that some of the subscales of the GCOPE performed differently among participants who had suffered a loss due to illness than they did among participants who had suffered a violent loss (i.e. a loss due to accident, homicide, or suicide). These effects were small and are discussed in more detail below, but it should be noted that the relatively low number of respondents who had suffered violent losses may also have attenuated the effects of those interactions.

The sample retained for Study 2 does differ from previous studies in other important ways. A wider age range of participants were included than originally envisioned. Nevertheless the author believes that the resulting instrument will still be far more suited for use with college students generally, and emerging adults in particular, than any grief coping measure currently available. Many studies of bereavement in general and college student bereavement in particular limit their samples to those who have lost a loved-one within the

past 12 or 24 months (e.g. Balk, Walker, & Baker; 2010; Currier, Holland, & Neimeyer, 2006). In Study 2, participants were retained even if they reported their losses as being as distal as 268 months (although the means for both Subsample A and B were both approximately 22 months). The author's chose to include these individuals for a number of reasons. First, "oscillation" in the use of coping strategies was operationalized as a moderation effect of time on the relationship between coping strategy use and grief in the current study. It was hoped that having a larger variability in time since loss would create a greater likelihood that these effects would be identified. From a conceptual standpoint, it was also deemed important to represent the bereaved students at the University as broadly as possible, in order to produce a measurement tool that could apply to traditional college students as well as non-traditional college students. Finally, the current study made use of two different large-sample statistical methods (EFA and CFA) which necessitated collecting as broad a sample as possible. For these reasons, participants who were older than the age-range generally referred to as "emerging adulthood" were retained for analysis in the study as well. As above, the mean age was within the expected range (approximately 19 years in both Subsample A and B), but older college students were allowed to participate in order to have a broad and large sample for analysis. However, future studies may choose to restrict the range and examine if the measure developed in Study 2 performs differently for traditional age college students who have suffered more recent losses.

Exploratory factor analysis: Main findings. The primary hypothesis of Study 2 was that the factor structure developed through exploratory factor analysis would reflect that predicted by the DPM. The DPM posits that the methods that individuals use to cope with bereavement can be divided into two overarching types of coping: loss-focused coping and

restoration-focused coping (Stroebe & Schut, 1999). While maximum likelihood analysis is not designed primarily for hypothesis testing (Byrne, 2001), it does provide a chi-square test for accepting or rejecting the null hypothesis that a proposed factor-structure fits the data. It also provides a foundation for developing models to be tested further through confirmatory analyses. The current study failed to support the hypothesis that an orthogonal two-factor model was the best description of the data provided. A stable two-factor model was not developed during the exploratory stages of analysis despite multiple iterations. The two factor solution explained a relatively small percentage of the variance in items even after multiple attempts at item reduction (36.8%) and confirmatory analysis showed poor fit for a two-factor model to the data. A review of the modification indices of the two-factor model showed potentially meaningful correlated error terms, which often indicate the need to extract more factors (Byrne, 2001). For these reasons, the two-factor solution was deemed to be a poor fit to the data, and the exploratory analysis was repeated from the beginning with an eye toward extracting further factors.

There are numerous possible reasons for this finding. One possibility is that the items generated for the current study failed to represent the full range of coping strategies that could be encompassed by the DPM. As discussed in Study 1 above, although a large number of items were generated, many of these items were phrased in such a way as to represent outcomes as opposed to coping strategies. Although this was consistent with other measures of loss-focused coping in the literature (i.e. Wijngaards-de Meij et al., 2008), it is possible that the items in the current study simply did not ask the right questions. It is also possible that the qualitative analyses conducted in the Pilot Study and Study 1 failed to provide the needed material either because of the way questions were asked in the groups (e.g. frequent use of

specific prompts) or because of the need for further sampling. As discussed above, our focus-groups found identified a broad range of coping strategies used by participants, but these differed in some ways from those described in the other major qualitative study conducted with bereaved college students to date (Seah, & Wilson, 2011).

Another possibility is that the factor-structure developed in Study 2 is in fact representative of the important coping strategies employed by college students, and the DPM either does not apply specifically to college student populations, or the coping strategies retained in the final measure can be used for either loss- or restoration-focused purposes depending on the circumstance. For example, Substance Abuse was one factor retained on the GCOPE. Students endorsing this factor are essentially endorsing using alcohol or using drugs to cope over the past 2 weeks. Hypothetically, some students could be using these strategies as a way to deal directly with the emotional consequences of their loss (i.e. loss-focused coping) by distracting themselves or numbing negative feelings or difficult memories. This assumption is reflected in the content of some of the items (e.g. G5 “I have used substances to avoid thinking about my loss”). However, it is possible that students could also respond to items in the Substance Abuse subscale when coping in a restoration-oriented fashion, such as if drug and alcohol use is a part of an attempt to socialize and build new relationships in the wake of a loss (e.g. G1 “I’ve been drinking alcohol more than usual”).

It is possible that the use of factor analysis in the current study, with the aim of reducing the data to a parsimonious set of factors, failed to represent the full range of coping strategies used by students. Use of the eigenvalue method for determining the number of factors to extract (Kaiser, 1960) would have resulted in an initial extraction of 31 factors. The

presence of a Heywood case during initial factor extraction precluded any attempt to extract such a large number of factors in the current study, as Heywood cases may indicate a sample of insufficient size to reliably extract a large number of factors. However, future studies with larger samples or using a different method of factor analysis that is not prone to Heywood cases (e.g. Principle Components Analysis) may have allowed for a measure with a large number of factors each with a small number of items. It is also possible that these small factors could have been found to load onto two second-order factors which were conceptually consistent with loss- and restoration-focused coping.

Finally, it should be noted that attempts to distill coping strategies into two-factor solutions (e.g. problem-focused and emotion-focused coping) have been problematic throughout the history of the measurement of coping (e.g. Carver, Weibtraub, & Scheier, 1989; Vitaliano, et al., 1985). Indeed, even those who have advocated for two-factor models of coping have also advocated the microanalysis of processes that individuals use to cope with specific stressors (Lazarus, & Folkman, 1984). This push for a more process-oriented approach arose partly out of the difficulty of simplifying coping strategies into those which are effective and those which aren't. In this regard, two-factor models may have heuristic value but in essence are also oversimplifications of a complex and dynamic process.

The factor solution which was judged to best represent the data based on maximum likelihood analysis (after the failure of the two-factor solution to show acceptable model fit) was a comprehensive five-factor model. A review of the scree plot showed that the extraction of five factors was appropriate according to Cattell's scree plot method (1966). After only two rounds of item reduction, the five-factor solution retained only items with good factor

loadings (>0.45 on one factor and <0.3 on all other factors). The KMO index for the item pool was 0.89 indicating continued good factorability for the items in the item-pool (Hutcheson & Sofroniou, 1999). Bartlett's Test of Sphericity also remained significant ($\chi^2(1540) = 9624.83, p < .001$). Absolute values of the factor loadings ranged from 0.47 - 0.91. The five factors accounted for approximately 45% of the variance in the 56 items retained in the final model, which, though modest, approaches the cut-off suggested by Beavers et al., (2013). After settling on the five-factor model, the researcher examined the item content for interpretability and named the factors.

The first factor, named "Depression" consisted of 19 items related to social withdrawal, loss of motivation, avoidance, and the experience of negative emotion (e.g. "I've felt numb," "I've tried everything to avoid my emotions"). It is notable that many of the items appear to relate to outcomes or emotional states (e.g. "I have difficulty concentrating") while others appear to be more behavioral in nature (e.g. "I've been turning off my emotions"). It could be argued, therefore, that many of the items retained in this factor do not truly represent coping strategies, but rather represent consequences of loss. However, it can be difficult to disentangle coping from outcomes, as some coping strategies may not be purposive in nature (Folkman, & Moskowitz, 2004). Additionally, the philosophy behind a truly exploratory use of maximum likelihood analysis necessitates that decisions be made empirically as opposed to conceptually where possible. In the context of the overall study, the Depression subscale taps into coping strategies that were judged to be conceptually meaningful to students during the Pilot Study and Study 1. For example, in both qualitative phases described above, participants reported that avoiding emotions and withdrawing socially were part of their coping experience. Items related to feeling unprepared and

overwhelmed (e.g. G35, “I’ve felt unprepared for what has been required for me,” “I feel pressure to choose between self-care and working on school work”) also relate closely to the themes noticed by facilitators in the Pilot Study. Finally, depression symptoms are commonly reported by the bereaved (e.g. Hogan et al., 2001; Simon et al., 2007). The Depression factor was therefore judged to be phenomenologically consistent with students’ reports of their bereavement experiences as well as the literature, and thus was retained as a subscale in the GCOPE.

The second factor, named “Restoration” consisted of 14 items related to experiencing or finding benefits in the loss, being future oriented, and focusing energy on new relationships. These items related closely to aspects of restoration-focused coping as defined in the DPM (Stroebe, & Schut, 1999). Restoration-focused coping is inherently future-focused and involves managing secondary aspects of the loss such as changes in identity and managing new relationships. These items also relate to meaning-making theory as described by Currier, Holland, and Neimeyer (2006) and Davis, and Nolen-Hoeksema (2001) who have demonstrated the importance of developing a subjective sense of meaning (G147 “I have found meaning in new relationships”) and in finding benefits in one’s loss (e.g. G173 “I feel that I have changed for the better,” G168 “I have found benefits in how my life has changed”). The Restoration subscale is also consistent with the themes identified in Study 1, where participants described the importance of gaining new purpose, understanding of others, maturity, and a sense of priorities as aspects of their grief journey.

The third factor, named “Religious Coping” consisted of 8 items related to the use of religion in coping with loss. Specifically, these items were primarily related to what

Pargament et al. (2000) would define as Positive Religious Coping and what Lord and Gramling (2014) defined as Adaptive Religious Coping. Items tapped the use of religious/cultural rituals, prayer, drawing comfort from beliefs, and church attendance. Religious coping has been extensively studied in the bereavement literature, and previous publications by the author and colleagues (i.e. Lord, & Gramling, 2014; Lord, Gramling, Collison, & Weiskittle, 2015) have provided additional support for the importance of these variables in predicting positive outcomes of grief, such as spiritual wellbeing and personal growth. Participants in the Pilot Study, as well as one participant in Study 1 also discussed religious coping as a method for coping with bereavement.

The fourth factor, named “Substance Abuse,” consisted of 8 items related to using drugs and alcohol and attending parties. There is some emerging evidence linking problematic grief reactions (i.e. Complicated Grief) to increased substance use, but this study did not use a college student sample (Prigerson, et al., 1997). Although the author is not aware of any studies currently extant in the literature that specifically examine the relationship between bereavement and substance abuse, discussion of substance abuse was prominent in the Pilot Study and was also present in Study 1. Seventy-nine percent of participants who responded to the open-ended question in the post-group survey of the pilot study explicitly mentioned substance abuse as a coping strategy discussed in their pilot group, and all three facilitators of the pilot groups noted that substance abuse was a prominent part of the discussion. One of the three participants in the Study 1 focus-group discussed substance abuse, specifically marijuana use, as a coping strategy. With regard to the literature, problematic alcohol use is a well-documented phenomena among college students (e.g.

Dawson, Grant, Stinson, & Chou, 2004) and has also been linked to trauma exposure in college populations (Read, Griffin, Wardell, & Oimette, 2014).

It should be noted that despite the prevalence of substance abuse as a discussion topic in the qualitative phases of this project, the Substance Use subscale had the lowest corrected mean score (1.4), which roughly corresponded to the halfway point between the responses “I haven’t been doing this at all” and “I’ve been doing this a little bit.” The subscale and its items all also showed a significant positive skew and were highly kurtotic. In essence, this indicates that the majority of participants in the current study *did not* endorse the use of substance abuse in the two weeks prior to completing the survey. The fact that these items were retained as a coherent factor with some predictive power (discussed below) suggests that although few students report currently abusing substances to cope with grief, those that do are impacted significantly by this coping strategy.

The fifth and final factor, named “Support Seeking,” consisted of 7 items related to reaching out to or talking to family and/or friends for support. Two items also explicitly referred to disclosure about the loss (G11 “I’ve wanted to talk about my loss” and G12 “I’ve talked to others about my loss”). The presence of this factor is consistent with results from the Pilot Study and Study 1, where students in both studies endorsed support from family and friends as important coping strategies. Over half of respondents in the Pilot Study mentioned family or other social support as being part of the discussion in their focus-group. All three participants in the formal focus-group in Study 1 reported that the support of family and/or close friends was an important aspect of their grief journey. Social support and disclosure have long been variables of interest in the grief literature (Stroebe, Zech, Stroebe, &

Abakoumkin, 2005; Stroebe, Schut, & Stroebe, 2005) with mixed results. For example, some studies have found a buffering effect for social support on certain symptoms of bereavement (e.g. somatic symptoms) for certain populations (e.g. bereaved older adults; Krause, 1986). Other research has failed to find a main effect for social support with the bereaved (e.g. Murphy, 1988). However, it is clear that the presence of a social support-related factor in the final GCOPE is consistent with both the literature and the qualitative report of the students sampled in the Pilot Study and Study 1.

The results of the exploratory portion of Study 2 provide a foundation of evidence for the construct validity of the five-factor form of the GCOPE. Five-factors were extracted using the scree-plot method, and the five-factor model was retained after two rounds of item reduction. The factors appeared to be conceptually meaningful and largely consistent with both the bereavement literature and the qualitative data collected in the Pilot Study and Study 1. Additionally, the subscales of the GCOPE described above showed uniformly good internal consistency as measured by both alpha and mean interitem correlation. Internal consistency describes the intercorrelations that items have with the other items and serves as a measure of whether the scale measures a single phenomenon or underlying construct (Clark & Watson, 1995; DeVellis, 2003). The results were such that the factors appeared internally consistent without suggesting that items were redundant. The correlations between the factors were also both conceptually sound and of an appropriate magnitude. None of the factors correlated so highly (e.g. >0.7) as to suggest the necessity of collapsing factors together to improve parsimony. Inter-factor correlations are explored in more detail below in the Validity section as evidence for convergent validity.

In conclusion, the primary hypothesis of Study 2, that a 2-factor orthogonal solution would arise from the data, was not supported. The two-factor solution showed a pattern of poor stability over multiple iterations of item reduction and showed poor fit when subjected to confirmatory testing. However, a five-factor model was developed which appeared conceptually sound when compared to the research literature and the qualitative data available in the Pilot Study and Study 1. A 56-item, five subscale measure with correlated factors was deemed sufficiently sound to be appropriate for confirmatory testing with Subsample B.

Confirmatory factor analysis: Main findings. Confirmatory testing was conducted using AMOS Graphics 22.0 to apply SEM to Subsample B. This independent confirmatory testing is suggested by Devellis (2003) as a best practice in scale development. The hypothesis tested at this stage of Study 2 was simply that the factor structure developed through exploratory testing (i.e., a 5-factor model with correlated factors) would be confirmed. As suggested by Byrne (2001), it is beneficial to confirm a factor structure by comparing the hypothesized model (in this case a 5-factor model with correlated factors) to the independence model (a model which assumes all variables are independent with no common factors) in addition to examining measures of absolute fit (e.g. chi-square). Initially, the hypothesized 5-factor model showed good fit on multiple indices of absolute fit, while showing poor fit on an index of incremental fit. The CFA analysis resulted in a significant chi-square statistic ($\chi^2(1474) = 3403.91, p < .001$) which corresponds to an acceptable value of 2.31 when corrected for degrees of freedom. SRMR (0.072) and RMSEA (0.064; 90% confidence interval 0.061 – 0.066) were both within the acceptable range. Only CFI (0.78) showed poor fit, suggesting that the model only moderately improved fit to the data over the independence model.

Before discussing how the author handled this inconsistency in model fit, it is important to put these findings in the context of scale development in general. Specifically, the process through which the GCOPE was derived was partially based on the development of the HGRC (Hogan et al., 2001), a commonly used instrument which was also developed using a mixed-methods approach. The HGRC was subjected to a CFA with the goal of confirming the model fit of a 61-item, 6-factor model (roughly comparable to the complexity of the GCOPE model). Also similarly to the GCOPE, the HGRC contained a number of items which were significantly skewed and kurtotic, putting the scale at risk for poor fit related to violations of assumptions of normality. Hogan and colleagues chose not to transform the data to improve normality, as the “data would be expected to be non-normally distributed as bereaved parents are profoundly affected by their child’s death and they continue grieving with varying degrees of intensity indefinitely” (p. 12). A similar rationale was used multiple times during the development of the GCOPE, and this highlights the importance of carefully considering the meaning of non-normal data as a true representation of the range of experiences in a research population before transforming data. However, one impact of this theoretical/conceptual decision was that the HGRC showed poor fit on CFI (0.74) just like was found for the GCOPE. This suggests that poor incremental fit on an isolated fit index need not invalidate a measure, as multiple reasons for isolated instances of poor model fit are possible.

Hogan and colleagues (2001) handled their model-fit issues by parceling their items, or combining groups of 2-3 items into larger indicators through summing. This serves to improve normality, but also arbitrarily reduces model complexity which may cause improved model fit as an artefact of the change in the ratio of observed to estimated variables. It may

also cause issues of power, as sample-size requirements in CFA are strongly related to the ratio of indicators to factors (Mundfrom, Shaw, & Lu Ke, 2005). MacCallum et al. (1992) also caution against engaging in extensive modifications to a model, especially when the model approaches acceptable fit, as “modifications may simply be fitting small idiosyncratic characteristics of the sample” (p. 501). The current study rejected this approach on the grounds that 1) it would possibly reduce the power and make the model less stable instead of more stable and 2) after parceling the data, it would be unclear whether model fit improved due to improvements in normality alone, or whether improvements in fit were an artifact of the changed ratio of observed variables to estimated variables.

A review of modification indices and standardized residuals failed to reveal any clear pattern of misspecification. There were eighteen modification for covariances between error terms, but these are often not meaningful, and not appropriate for use during scale development (Worthington & Whitaker, 2006). Of the 18 modification indices deemed significant among the regression weights of the model, most involved regression of observed variables onto one another, which is not recommended in SEM. Finally, one modification index suggested a negative cross-loading between one Restoration item and the Substance Abuse factor, but adding this cross-loading to the model, which already allowed for correlations between the factors, did not make conceptual sense.

One final method for improving model fit without conceptually changing the model or its factors is to examine the squared multiple correlations of the items and to remove those with low values (e.g. <0.4 ; Nunnally, 1978). This is analogous to removing items with poor communalities during exploratory testing. In essence, this method involves removing those

items that are predicted more by error than by their relationship with a given factor. This method was deemed tentatively appropriate for use in the current study, as many of the items continued to show large error terms. Use of Nunnally's suggested criteria resulted in the removal of 29 items, leaving the researcher with a 5-factor, 27-item scale. The 27-item model showed improved model fit. The chi-square statistic remained significant ($\chi^2(314) = 697.02$, $p < .001$) which corresponded to an acceptable value of 2.22 when corrected for degrees of freedom. SRMR (0.057) and RMSEA (0.061; 90% confidence interval 0.055 – 0.067) both remained within the acceptable range. CFI (0.903) improved significantly and now indicated acceptable fit.

Before deciding on the appropriateness of this method, it was important to review the content of the factors to ensure that they remained conceptually meaningful. Factor 1 (8 items; Depression) retained items related to withdrawing socially, anhedonia, feeling numb and overwhelmed, and experiencing negative emotions. It lost many items which were related to suppressing emotion or active avoidance, which suggests that this factor may be more truly represent depression-like outcomes as opposed to avoidant coping strategies. Factor 2 (7 items; Restoration) remained largely consistent with its previous form. It continued to contain items related to benefit-finding and focusing on new relationships. Factor 3 (3 items; Religious Coping) remained conceptually consistent despite losing several items. The items retained included focusing on religious faith, asking God for help, and using prayer to cope. Factor 4 (5 items; Substance Use) also remained conceptually consistent, losing items related to partying more but retaining those items with content focused specifically on alcohol and drug use. Finally, Factor 5 (4 items, Support-Seeking) remained largely consistent, but now contained mostly items related to family support as opposed to

friend support. Additionally, after re-running the smaller model, 4 items remained with squared multiple correlations below 0.4 (G167, G173, G12, G38). However, rather than continue to trim items from the model, the author took MacCallum and colleagues' (1992) suggestion and stuck with the model which showed acceptable fit.

The end result of the CFA process was the confirmation that a 5-factor model with correlated factors was an acceptable fit to the data. The initial 56-item model showed good absolute fit, but poor incremental fit. This issue with incremental fit was likely related to both the overall amount of error in the model (possibly due to the length of the online survey) as well as the inclusion of items which were not normally distributed. The fit of this model was similar to that found in other popular measurement tools in the grief literature (e.g. Hogan et al., 2001). The removal of items with large error terms improved the fit of the model and resulted in a briefer and more parsimonious scale while retaining the conceptual framework of the five factors. Overall the combined results of the EFA and CFA process described above provide a strong argument for the overall construct validity of the GCOPE. The 26-item version of the GCOPE was selected to be subjected to further validity testing at this stage.

Validity. Hypotheses 3 and 4 related to the construct validity of the GCOPE.

Essentially, it was hypothesized that the GCOPE would show good convergent validity after being fully developed through EFA and CFA. The 27-item GCOPE was subjected to number of analyses to provide further evidence of the measure's validity. Devellis (2003) discusses three primary types of validity which are important to establish during the scale development process: content validity, construct validity, and criterion-related validity. Content validity is essentially another way to say sampling adequacy. Across the Pilot Study and Study 1, a total

of 20 bereaved students were sampled as experts in order to ensure the content validity of the item pool used in Study 2. During the item generation process, a licensed clinical psychologist and fellow of thanatology, as well as two graduate students with publications in the area of bereavement acted as additional experts. Construct validity refers to the extent to which a measure or set of subscales truly measure what they purport to measure. According to Devellis, this manifests itself in the behavior of the instrument in terms of its relationships with other related constructs. Finally, criterion-related validity (sometimes referred to as predictive validity) refers to the measure's ability to measure outcomes or identify groups.

Convergent validity. Content validity was the focus of the Pilot Study and Study 1, and the foundation for construct validity was laid through exploratory and confirmatory factor analysis. Further evidence for construct validity was explored through the examination of the convergent and divergent validity of the GCOPE subscales. Convergent and divergent validity refer to a measures ability to consistently relate to constructs which it would be expected to be related to, while simultaneously not relating to those constructs with which it is not expected to relate. First, the correlations between the subscales of the GCOPE themselves were examined to establish convergent and divergent validity. No specific hypotheses were tested, as the correlations were already known to the researcher from calculation during the EFA process. However, these relationships can be explored within the context of their content and the literature. The Depression subscale was significantly related to Substance Abuse ($r = 0.69$) and Support-Seeking ($r = 0.19$). The relationship between the Depression subscale and the Substance Abuse subscale is consistent with the extensive literature on the behavioral consequences of depression (e.g. Brook, Cohen, & Brook, 1998; Swendsen, & Merikangas,

2000) as well as the emerging literature on substance abuse and bereavement (Prigerson et al., 1997).

The relationship between the Depression subscale and Support-Seeking also makes sense in the context of the literature on social support and depression. It has long been established that perceived social support has an inverse relationship with depression symptoms (e.g. Broadhead et al., 1983; Grav, Hellzen, Romild, & Stordal, 2012; Monroe, 1983). There is also evidence that depression symptoms lead to “support erosion” (Coyne, 1976; Stice, Ragan, & Randall, 2004). In this regard, the small but significant correlation between Depression and Support-Seeking in the GCOPE model might be due to the fact that participants with higher Depression scores are likely to be either seeking support in general to assist in dealing with their symptoms, or in response to having experienced an erosion of their existing support networks. Indeed, past research in the coping literature suggested that depressed persons are more prone to seeking emotional and instrumental support from others relative to non-depressed controls (e.g. Coyne, Aldwin, & Lazarus, 1981). As these correlations are consistent with what would be expected based on the literature, they add support to the construct validity for the Depression and Substance Abuse subscales.

The other significant correlations in the GCOPE model consist of a set of significant intercorrelations between the Religious Coping, Support-Seeking, and Restoration subscales. On its face, this pattern of relationships makes conceptual sense as these three subscales appear to be positive coping efforts in contrast to the more maladaptive Depression and Substance Abuse subscales. More specifically, the author’s previous research (Lord, & Gramling, 2014; Lord et al., 2015) has indicated that Positive Religious Coping is directly and

moderately related to the Personal Growth subscale of the HGRC (Hogan et al., 2001), which shares several features with the Restoration subscale of the GCOPE. The Positive Religious Coping subscale of the RCOPE also contains an entire subscale related to seeking social support from both clergy and fellow believers (Pargament, et al., 2000), which lends support to the likelihood of a positive correlation between the GCOPE Religious Coping subscale and the Support-Seeking subscale. The correlation between Support-Seeking and Restoration also has precedence in the literature. Hogan & Schmidt (2002) tested an SEM model predicting the moderating role of social support on the experience of personal growth in the bereaved which showed a significant positive relationship between social support and personal growth. The posttraumatic growth literature also suggests a link between seeking social support and posttraumatic growth, which overlaps conceptually with the Restoration factor on the GCOPE (e.g. factors of the PTGI include relating to others, feeling personal strength, and being open to new possibilities; Tedeschi, & Calhoun, 1996). Prati, & Pietrantonio (2009) conducted a meta-analysis of this literature on coping strategies and posttraumatic growth and found consistent moderate effects of seeking social support on posttraumatic growth. In summary, the correlations between the five factors of the GCOPE all appear to be consistent with the literature related to their item content. This provides further evidence for the construct validity of the GCOPE as a whole.

Next, the GCOPE was compared to related measures in order to provide further evidence for convergent validity. In the current study, the Brief RCOPE for Grief (Lord, et al., 2015) and the Brief COPE (Carver, 1997) were selected as related measures. It was hypothesized that the GCOPE would relate to the appropriate subscales of these measures based on the content of the final GCOPE model. Generally speaking, good convergent

validity would show that the subscales of the GCOPE relate to conceptually similar measures on the RCOPE and Brief COPE without showing such high correlations as to suggest that they measure identical concepts. Once the final GCOPE model was determined, more specific hypotheses were generated based on the content of the subscales in question. In each case, bivariate correlations were calculated to measure the strength and direction of the relationships in question.

First, it was hypothesized that the Religious Coping subscale of the GCOPE would show a significant positive association with the Adaptive Religious Coping subscale of the Brief RCOPE for Grief (Lord, et al., 2014). It was further hypothesized that the Religious Coping subscale would have an inverse relationship with the Maladaptive Religious Coping subscale of the Brief RCOPE for Grief and a positive relationship with the Religion subscale of the Brief COPE. The Religious coping subscale demonstrated the expected positive association with Adaptive Religious Coping on the RCOPE ($r = 0.74$) with a correlation high enough to call into question the distinctness of the two constructs. The Religious Coping Subscale was uncorrelated with the Maladaptive Religious Coping subscale of the RCOPE ($r = -0.02$) which makes conceptual sense as the ARC and MRC subscales were specifically designed to be uncorrelated (Lord, & Gramling, 2014; Lord et al., 2015) and the Religion subscale of the GCOPE is highly correlated with ARC. The Religion subscale of the GCOPE showed a similar level of correlation with the Religion subscale of the Brief COPE ($r = 0.78$). Overall, these data provide good evidence for the convergent validity of the Religious Coping subscale. However, they also suggest that the Religious Coping subscale, the Religion subscale of the Brief COPE, and the Adaptive Religious Coping subscale of the Brief RCOPE for grief are measuring the same construct as opposed to distinct constructs. Researchers in

the future may therefore consider using *just* the GCOPE to measure this construct as opposed to including independent measures of positive/adaptive religious coping.

Second, the Substance Use subscale of the GCOPE was expected to have a significant positive correlation with the Substance Use subscale of the Brief Cope. The Substance Use subscale of the GCOPE showed the expected positive relationship with the Substance Use subscale of the Brief COPE ($r = 0.75$). Again, the relationship was strong enough to suggest that the two measures are tapping the same construct as opposed to tapping related but distinct constructs. This provides support for the use of the GCOPE in future research without the need for the use of an independent measure of substance abuse.

Third, The Support-Seeking subscale of the GCOPE was expected to be significantly positively correlated with the Use of Emotional Support and Use of Instrumental Support subscales of the Brief Cope. The Support Seeking subscale of the GCOPE showed the expected level of association with the Emotional Support ($r = 0.53$) and Instrumental Support ($r = 0.55$) subscales of the Brief COPE. This level of association suggests that the measures are tapping related but distinct constructs. This provides good support for the construct validity of the Support-Seeking subscale as an independent measure of support-seeking behavior as distinct from the subscales of the Brief COPE.

Fourth, the Restoration subscale of the GCOPE was expected to be positively related with the Positive Reframing subscale of the Brief Cope. The Restoration subscale of the GCOPE demonstrated the expected positive relationship with the Positive Reframing ($r = 0.47$). This is a promising result, suggesting that the Restoration subscale is related to, but

distinct from positive reappraisal which is used as a proxy for meaning-making elsewhere in the literature (e.g. Park, 2005).

Fifth, the Depression Subscale of the GCOPE is expected to be positively correlated with the Self-Blame, and Behavioral Disengagement subscales of the Brief Cope. It showed the expected positive associations with Self-Blame ($r = 0.57$), and Behavioral Disengagement ($r = 0.58$). This is particularly promising, as a number of the items which overlapped with disengagement were trimmed during the confirmatory factor analysis process. The Depression subscale as it currently stands is related to but distinct from self-blame and behavioral disengagement.

Finally, it should be noted that each GCOPE subscale showed numerous small to moderate correlations with the subscales of the Brief COPE and Brief RCOPE for Grief (see Results above). Additionally, many of the Brief COPE subscales showed small to moderate correlations with each other. It is beyond the scope of the current study to thoroughly examine the patterns of intercorrelations between these coping subscales (though this is certainly a valid avenue for future research with exploratory factor analysis). However, with respect to arguing for the overall construct validity of the GCOPE subscales, it is important to place this pattern of intercorrelations into the context of the general coping literature. Factor analyses of general coping checklists are notoriously inconsistent (e.g. Sorlie, & Sexton, 2001), partly due to the tendency of coping subscales to intercorrelate. Some researchers have suggested that these intercorrelations point to a nested second-order or bifactorial model for coping behavior (Vitaliano et al., 1985; Zhang et al. 2014). Zhang and colleagues, for example, tested competing models of the Coping Style Questionnaire in a large sample ($N =$

826) of military officers and found that a model which extracted a general coping factor (which they termed “coping resources”) was the best fit for the data. This factor has also been referred to simply as the general coping factor (e.g. Vitaliano et al., 1985). Stated another way, individuals tend to draw on a variety of coping strategies that are available to them, and individuals who have the ability and/or the desire to cope more tend to cope more in general as opposed to only coping with a specific type of strategy. Based on the above, the convergent validity analyses were deemed to confirm Hypotheses 3 and 4. GCOPE subscales consistently showed the expected relationships with related constructs. However, the Religious Coping and Substance Abuse subscales appeared to measure constructs which are also tapped by the RCOPE and Brief COPE respectively. Rather than detract from the utility of the GCOPE scale, this overlap could increase the efficiency of survey batteries presented to participants in future research, as researchers could use the GCOPE alone in lieu of additional scales for Religious Coping or Substance Abuse.

Criterion-related validity. Criterion-related validity, or the relationship of a measurement tool to relevant outcomes (Devellis, 2003), is useful both for adding to the weight of evidence for overall construct validity and for demonstrating the usefulness of the survey as a tool for prediction. First, bivariate correlations were calculated to establish the pattern of relationships between each GCOPE subscale and relevant outcomes. Four outcomes were included in the current study: grief symptoms as measured by total score on the ICG, spiritual wellbeing as measured by total score on the SWBS, meaning-made as measured by total score on the ISLES, and perceived health as measured by the self-rated health item from the SF-20. It was hypothesized that the positive subscales of the GCOPE (Support-Seeking, Religious Coping, and Restoration) would be positively associated with

positive outcomes (meaning-made, self-rated health, and spiritual wellbeing) and inversely associated with grief symptoms. The opposite pattern of relationships was expected for the Substance Abuse and Depression subscales of the GCOPE.

The expected pattern of correlations was found for spiritual wellbeing with all subscales of the GCOPE. Spiritual Wellbeing was positively associated with Religious Coping ($r = 0.65$), Restoration ($r = 0.17$) and Support-Seeking ($r = 0.18$) and negatively associated with Depression ($r = -0.35$) and Substance Use ($r = -0.29$). Self-rated health showed the expected pattern with all subscales save for Support-Seeking. Support-Seeking was uncorrelated with Self-rated health ($r = -0.02$), but Religious Coping ($r = 0.11$) and Restoration ($r = 0.16$) each showed a positive association and Depression ($r = -0.48$) and Substance Use ($r = -0.27$) each showed the expected significant inverse relationship with Self-rated health. However, grief symptoms and meaning-made both showed only the expected relationships with Depression and Substance Use. Grief symptoms were uncorrelated with Restoration ($r = 0.02$), Religious Coping ($r = 0.07$), or Support-Seeking ($r = 0.11$), but showed the expected association with Depression ($r = 0.50$) and Substance Use ($r = 0.25$). Meaning-Made was uncorrelated with Restoration ($r = 0.06$), Religious Coping ($r = -0.01$), or Support-Seeking ($r = -0.02$) but showed the expected negative associations with Depression ($r = -0.57$) and Substance Use ($r = -0.38$).

With regard to self-rated health, the lack of relationship between this outcome and Support-Seeking might be attributable to the above-mentioned correlation between Support-Seeking and Depression. There are numerous examples in the literature linking self-reported depression symptoms to lower self-rated health in both large community samples (e.g. Han,

2002) and the bereavement literature has also demonstrated a link between bereavement status and grief symptoms and self-rated health (Prigerson, et al., 1997; Thompson, & Breckenridge, 1984). Dissatisfaction with social support has also been shown to be negatively related to self-rated health in the elderly (Krause, 1987). As the Support-Seeking subscale does not assess the quality of the social support or whether social support was received, it is also possible that participants who endorse Support-Seeking are not receiving support that is helpful to their mental and physical health. Indeed, researchers have recently called into question the role of social support (Stroebe et al., 2005) and disclosure (Stroebe, Schut, & Stroebe, 2005) in the grieving process. The role that Support-Seeking may play in impacting the self-rated health of the bereaved warrants further research.

The findings for grief were also not consistent with what was hypothesized. However, the literature reveals possible explanations for these relationships as well. As mentioned above, Support-Seeking items are related to accessing social support resources as well as disclosing feelings to family. The impact of these behaviors on grief scores has been called into questions by research over the past decade (e.g. Stroebe et al., 2005; Stroebe, Schut, & Stroebe, 2005). Sikkema et al. (2000) tested the impact of support-seeking coping as measured by the Ways of Coping Questionnaire among a sample of men who had experienced an AIDS-related loss. After controlling for depression and physical symptoms, they failed to find a significant relationship between support-seeking and grief in their sample as well. With regard to the Religious Coping Subscale, the authors own past research also failed to show a direct relationship between Adaptive Religious Coping and grief symptoms as measured by the HGRC (Lord, & Gramling, 2014; Lord et al., 2015). As the Religious Coping subscale of

the GCOPE was substantially correlated with ARC, it makes sense that a similar (nonsignificant) level of correlation with grief symptoms was found in the current study.

The lack of a relationship between the Restoration subscale and grief also has some precedence in the literature. The Restoration subscale consists of items that relate to personal growth, having found benefits in the loss, and starting new relationships. Aspects of meaning-making, including finding benefits in the loss, have been shown to predict grief symptoms in other studies in the literature (e.g. Davis, & Nolen-Hoeksema, 2001; Holland et al., 2006). However, benefit-finding in those studies was measured with a single item. Posttraumatic growth theory, which shares some features with the Restoration subscale of the GCOPE (e.g. improved relationships, finding strength, positive improvements in life and identity) provides one explanation for this lack of association. Calhoun et al. (2010) have suggested that the bereaved may experience feelings of growth and grief simultaneously, and that the constructs need not be correlated. Currier, Holland, & Neimeyer (2012) found a positive correlation between ICG scores and posttraumatic growth, but upon further analysis found that the relationship was curvilinear as opposed to linear. It is possible that a similar curvilinear relationship exists between Restoration on the GCOPE and ICG scores, and that this relationship was therefore not captured with a direct correlations.

Similarly, findings for meaning-made, as measured by the ISLES were not consistent with all hypotheses. The Depression and Substance Abuse subscales showed the expected negative relationships with ISLES scores, but Religious Coping, Support-Seeking, and Restoration did not show significant relationships with scores on this measure. In the literature, the ISLES has been shown to correlate significantly with a single-item measure of

benefit-finding in a general population but not among the bereaved. (Holland, et al., 2010). As benefit-finding appears to overlap conceptually with the Restoration subscale of the GCOPE, this finding is consistent with the previous literature in that respect. Holland and colleagues also point to a general inconsistency in the literature regarding the impact of benefit-finding on adjustment outcomes. In a more recent study, Lancaster and Carlson (2015) administered the ISLES, PTGI, and measure of depression and PTSD to 234 undergraduate students who had suffered a stressful life event (86 participants reported the death of loved-one as their stressor). They found that the relationship between total ISLES scores and ISLES subscale scores and domains of the PTGI were inconsistent. In fact, the subscales of the PTGI that most relate to the Restoration subscale of the GCOPE (Personal Strength and Relating to Others) had negative correlations with the ISLES. Further clarification is needed in future studies regarding the relationship between aspects of the meaning-making process, including theoretical outcomes (e.g. meaning-made as measured by the ISLES) and coping strategies such as positive reappraisal, investing in new relationships, and noticing new personal strengths.

Support-Seeking, as discussed at length above, has numerous explanations regarding its inconsistent association with outcomes, and these apply to meaning-made as well. First, it was correlated with depression symptoms which may indicate that although participants who endorse items on this subscale are seeking support, it does not necessarily mean that they have found support that is conducive to meaning-making. Hogan & Schmidt (2002) did find a significant relationship between their own measure of social support (the ISS) and the personal growth subscale of the HGRC. However, the content of their measure differed significantly from the Support Seeking Subscale, particularly in terms of having positive

qualifiers on item statements. For example, the Support-Seeking Subscale of the GCOPE has an item stating “I have shared my feelings with my family” and one stating “I talk with my family when I am feeling down” as compared to items on the ISS which state “I can get help for grieving when I need it” and “It helps me to talk with someone who is nonjudgmental about how I grieve.” The fact that some of the items on the ISS imply that the social support being sought by participants is helpful for their loss may explain this difference in findings.

Finally, Religious Coping as measured by the GCOPE did not show a significant relationship with meaning-made. Although this finding is contrary to that hypothesized by the researcher, it matches the findings suggested in the literature, that the direct role of religion on grieving is variable across studies and is therefore most likely more complex than a simple effect (Hays & Hendrix, 2008; Becker, Xander, Blum, Lutterbach, Momm, Gysels, & Higginson, 2007). Additionally, meaning-making theory suggests that in order for coping strategies to impact meaning-related outcomes, individuals’ meaning systems must first suffer a challenge (Park, & Folkman, 1997). Characteristics of the sample in the current study may therefore have attenuated the link between religious coping and meaning-made. While it is clear that a loss *may* act as a traumatic experience for an individual, recent research has emphasized the resilient nature of human beings, and it has been estimated that up to 80% of bereaved individuals shown resilience in the face of their loss (Bonanno et. al, 2002). It has been suggested that losses that are violent in nature (e.g. suicide or homicide) or that violate individuals’ expectations (e.g. the loss of a child) are more likely to impact belief systems than those which do not have these characteristics (Currier, Holland, & Neimeyer, 2009). Indeed, of the few empirical studies that have found a link between religious coping and meaning making among the bereaved, the samples have included individuals who had

suffered the loss of a child (McIntosh, Silver, & Wortman, 1993; Murphy, Johnson, & Lohan, 2003). In the current study, the majority of losses experienced by participants were losses due to an accident or illness, and most individuals reported the loss of an extended family member, such as a grandparent or aunt or uncle. It is therefore possible that the lack of a significant relationship between religious coping and world assumptions is due to the fact that many or most individuals in the sample did not experience a violation of their world assumptions, and therefore had no need to rebuild them.

In summary, the GCOPE subscales showed fair levels of criterion-related validity. Each subscale demonstrated the expected association with at least one outcome variable of interest, and no subscales showed relationships that were the reverse of what was expected. However, for grief symptoms and meaning-made only Depression and Substance abuse showed predictive power. While these mixed results were explicable when put into the context of the broader literature, they do point to a need to study the GCOPE further. Future studies should be focused on evaluating possible mediating and moderating variables between GCOPE subscales and outcomes, and testing the impact of GCOPE subscales on outcomes with special populations (e.g. those who have suffered a traumatic loss).

Incremental validity. Next, in the current study four hierarchical regression models were also tested in order to establish the incremental validity of the GCOPE (i.e. its ability to predict outcomes beyond other stable factors such as demographics). In each model the first step contained gender and age. The second step contained variables related to the type of loss, including time elapsed since the loss occurred, closeness to the deceased at the time of the loss, level of grief at the time of the loss, and the circumstance of the loss. The

circumstance of the loss variable was recoded into two groups: Non-violent loss (i.e., loss due to illness) and Violent loss (i.e., loss due to accident, homicide, military casualty or suicide) for the purposes of this analysis. The subscale scores for four of the five GCOPE subscales were entered at the third step. At this point, the decision was made not to include the Depression subscale as a variable in these analyses due to the fact that most of the items relate to outcomes as opposed to coping strategies. Finally, based on the performance of the Religious Coping, Support-Seeking, and Restoration subscales described above, the author tested for an interaction effect between each of the named subscales and circumstance of loss (violent vs. nonviolent) at the fourth step of the hierarchical regression model. Variables being used in the interaction (i.e. Religious Coping, Support Seeking, and Restoration) were centered in order to avoid issues with collinearity. Although null results were expected from many of these analyses based on the bivariate correlations discussed above, the full models were tested in order to thoroughly examine the relative impact of each variable and the predictive power of any interaction terms that achieved significance.

Hierarchical Model 1 tested the effects of the GCOPE subscales (not including Depression) on grief symptoms after controlling for gender, age, closeness to the deceased, type of loss, grief at the time of death, and time elapsed since the loss. Interactions between Religious Coping, Restoration, and Support-Seeking and Type of Loss were also tested. The first step of the model was non-significant, suggesting that age and gender were not meaningful predictors of grief symptoms in the current sample. As the vast majority of participants in the current sample shared a developmental stage (i.e. emerging adulthood) the fact that age was not a significant predictor of grief symptoms is understandable. With regard to gender, although there is evidence of differential effects for grief by gender, the majority of

studies have compared widows to widowers (e.g. Stroebe, 2001), and thus may not apply well to the current sample. Studies of gender differences in grief among college students have been less consistent, with some studies indicating no differences (e.g. Oltjenbruns, 1998). Step 2 was significant and both type of loss and grief at the time of the loss were significant predictors of grief symptoms, accounting for approximately 10% of the variance in grief symptoms. As expected based on the bivariate correlations described above, only the Substance Use subscale was a significant predictor of grief at Step 3, although Support-Seeking showed a nonsignificant trend toward a positive relationship with grief symptoms ($p = 0.10$). Step 4, which included the interaction terms, was nonsignificant. While the literature shows some evidence for an effect of type of loss (e.g. violent vs. nonviolent) on the type of coping that is useful to an individual (e.g. Mathews, & Marwit, 2006) these effects have not yet been thoroughly researched. It must also be noted that the number of violent losses in the current study, even when collapsed across accident, homicide, and suicide, only accounted for less than 25% of the participants in Subsample B. This small cell size ($N = 80$) may have detracted from the power of the analysis.

Hierarchical Model 2 tested the effects of the GCOPE subscales (not including Depression) on meaning-made after controlling for demographic variables and loss characteristics. Interactions between Religious Coping, Restoration, and Support-Seeking and Type of Loss were also tested again at Step 4. As above, Step 1 was nonsignificant, indicating that demographic factors did not meaningfully influence meaning-made. At Step 2, type of loss was the only significant predictor of meaning-made ($\beta = -0.17, p = .003$). This is consistent with meaning-making theory, which suggests that traumatic events can interfere with individuals' ability to make sense of the world (e.g. Janoff-Bulman, 1992). At Step 3,

only Substance Abuse was a significant predictor, with Step 3 accounting for approximately 15% of the variance in meaning-made. As discussed above, the literature is inconsistent regarding the impact that coping variables might have on meaning-made, but the influence of substance abuse on this outcome warrants further investigation in the future. As with Hierarchical Model 1, Step 4 was nonsignificant, possibly due to the low number of violent losses available in the current sample.

Hierarchical Model 3 tested the effects of the GCOPE subscales (not including Depression) on spiritual wellbeing. In this model, Step 1 was significant, with gender proving to be a modest but significant predictor of spiritual wellbeing. Gender-differences have been shown in the spiritual wellbeing literature, with females tending to show greater religious wellbeing than males (e.g. Roothman, Kirsten, & Wissing, 2003; Vosloo et al., 2009), although few studies have been conducted with college samples from the United States. Step 2 only approached significance, suggesting that characteristics of the grief experience did not meaningfully influence spiritual wellbeing in the current sample. As discussed above, the relatively homogenous nature of the sample in terms of type of loss and general distress may explain this lack of findings. Step 3 was significant, with both Religious Coping and Substance Use significantly predicting spiritual wellbeing. These results were largely consistent with the bivariate correlations discussed above. Support-Seeking and Restoration did not show a significant impact on spiritual wellbeing, but this is likely explained by the large amount of variance explained by Religious Coping ($\beta = 0.69$; $p < .001$) which may have overrun any effect of the other two positive GCOPE subscales. Step 4 was once again nonsignificant, likely for reasons discussed above.

Hierarchical Model 4 tested the effects of the GCOPE subscales (not including Depression) on self-rated health. Step 1 and 2 were both nonsignificant, once again suggesting that demographic factors and characteristics of the loss did not influence this outcome variable in the current sample. Step 3 of the model achieved significance, explaining approximately 12% of the variance in self-rated health. Religious Coping, Restoration, and Substance Use were all significant predictors of self-rated health in the expected directions. This is consistent with the literature on self-rated health, which suggests that religiosity (e.g. Doane, & Elliot, 2015) is associated with higher self-ratings of health, social support (Fisher et al., 2014) is positively associated with self-rated health while loneliness and poor social support are inversely related with self-rated health (Mood, 2013; Molarius et al., 2007), and that substance abuse is detrimental to self-rated health (Mood, 2013), although this result is often confounded with age (i.e. younger individuals tend to rate their health better and also abuse substances more). The impact that Restoration has on self-rated health is a new finding per the author's knowledge. However, as self-rated health is known to be related to positive affect, general psychological wellbeing and good relationships, this relationship makes conceptual sense.

Interestingly, Step 4 of this model, though accounting for only a small portion of the variance (3%), was statistically significant. Both Religious Coping and Support-Seeking showed an interaction with type of loss, such that the positive association between these variables and self-rated health was stronger for those participants who had suffered a violent loss than for those who had suffered a loss due to illness. These findings are consistent with the theory that those who suffer a violent loss benefit more from social and spiritual support than those who have suffered a nonviolent loss. For example, assumptive world theory

(Janoff-Bulmann, 1992) posits that only those who have suffered a trauma which challenges or even shatters one's beliefs about the world and the self-need to progress through a reconstructive meaning-making process. Stated another way, just as not all bereaved individuals require clinical intervention (e.g. Allumbaugh, & Hoyt, 1999; Bonanno, 2004), bereaved individuals who have suffered a less impactful loss could be expected to get fewer benefits from accessing religious and social support resources. Wickie and Marwit (2000) for example, found that parents who suffered the violent loss of a child endorsed different assumptions about the world than those who had lost a child by nonviolent means, and this difference predicted grief scores.

These findings are also consistent with the grief to personal growth model posited and tested by Hogan and Schmidt (2002) where social support was hypothesized to form a pathway to personal growth for those among the bereaved who had had core beliefs challenged by their losses. However, to the author's knowledge this is the first finding demonstrating a moderating effect of type of loss on the relationship between post-loss coping strategies and self-rated physical health. This is consistent with previous indications in the literature that grief has a major impact on self-rated health, health behaviors and mortality (Prigerson, et al., 1997; Stroebe, Schut, & Stroebe, 2003). These results are particularly interesting as these effects were likely attenuated by both relatively small number of participants who had suffered violent losses in the current study, and the tendency of younger individuals to report better self-rated health. The interaction between coping strategies and type of loss in the prediction of self-rated health among college students warrants further investigation in future studies.

Known-Groups validation. As a final test of the predictive validity of the GCOPE, the author ran a series of independent samples t-tests in order to establish known-groups or discriminant validity. This type of validity is based on a measures ability to differentiate between groups of interest. In the grief literature, it has been shown to be important to differentiate between those who are at risk for adverse outcomes (e.g. those who meet criteria for complicated grief; Neimeyer et al., 2008) and those whose grief symptoms appear normative. In this regard, Subsample B was split into two groups: those whose total scores on the ICG were ≥ 25 (the cut-off that has been identified as meaningful in the literature; Prigerson et al, 1995) and those who were below 25. Depression scores, Substance Abuse scores, and Support-Seeking scores all differed significantly between those who were above the cut-off for CG and those who were below. Religious Coping and Restoration did not differ significantly between groups. These results were entirely consistent with the pattern described in the bivariate correlation and hierarchical regression analyses above.

Conclusions. The general aim of Study 2 was lofty: to develop and begin validation of a new measure of coping designed specifically for use with college students. It was hypothesized that the measure would reflect the coping process as suggested by the DPM (Stroebe, & Schut, 1999). Although this hypothesis was not supported, Study 2 was successful in that it resulted in the creation of a new psychometric tool for use in future research. This tool, named the GCOPE, is based on items generated from two phases of qualitative analysis with bereaved college students themselves. A five-factor structure was developed through EFA and was confirmed on an independent subsample through CFA with some modifications. The final measure includes 27 items which each load strongly onto one of five subscales. These subscales reflect aspects of the grief experience, both positive and

negative, that are consistent with the qualitative data collected in the Pilot Study and in Study 1. Coherent factors of the coping experience of this sample include Depression, which reflects depression symptoms and social withdrawal, Restoration, which taps into engaging in new relationships and noticing positive changes in oneself, Religious Coping, which includes relying on God, faith, and prayer, Substance Abuse, which includes using drugs and alcohol alone and with greater frequency, and Support-Seeking, which involves reaching out to and sharing feelings with family and others.

The measure showed admirable construct validity, both in terms of the thoroughness of the factor analytic process, the fit of the model to the data, and in terms of the subscales' relationships with related constructs (i.e. subscales of the Brief COPE and Brief RCOPE for Grief). Although not all hypotheses were confirmed when predictive validity of the instrument was analyzed, the performance of the subscales was largely consistent with the literature. Overall, the GCOPE subscales were each useful in predicting different relevant grief outcomes. Substance Abuse was a strong predictor of all outcome measures, Religious Coping was a strong predictor of spiritual wellbeing, and religious coping and restoration were significant predictors of self-rated health. It is also worth noting that although the predictive power of most of the GCOPE subscales was small, the instruction set of the measure directs participants to report only those strategies that they have used to cope with their loss *within the last 2 weeks*. Many other coping scales instruct participants to endorse coping strategies that they have used *at all* in managing a given stressor (e.g. the Brief COPE; Carver, 1997; The Ways of Coping Checklist, Lazarus, & Folkman, 1988). In this sense, the fact that these subscales had predictive power when only tapping into a specific coping strategy used for a circumscribed period of time is compelling.

Support-seeking and religious coping also showed interaction effects which suggest that the impact of those variables on self-rated health is moderated by type of loss in bereaved college students. Although these effects were small, they are unique and compelling enough to warrant further investigation in future studies. In fact, no studies to date have focused specifically on the health impacts of bereavement in a college population, although one study has been published demonstrating that grief can negatively impact sleep among college students (Hardison, Neimeyer, & Lichstein, 2005). In this regard, the simple finding that grief symptoms are negatively associated with self-rated health ($r = -0.25$) is a contribution to the literature. Future studies should focus on this variable with students who suffer both traumatic and non-traumatic losses and compare them to non-bereaved controls. Additional variables of interest might include healthcare utilization, academic achievement (i.e. GPA), biomarkers of physical health, and other health behaviors that contribute to self-rated health, such as diet and exercise.

One of the most significant findings of Study 2 was the relative power of the Substance Abuse subscale in predicting grief-related outcomes in this sample. Although substance use is well documented (e.g. Dawson, Grant, Stinson, & Chou, 2004) and has also been linked to trauma exposure in college populations (Read, Griffin, Wardell, & Oimette, 2014), no studies to date to the authors knowledge have specifically examined Substance Abuse as a coping strategy among bereaved students. This finding also has wide-ranging significance for employees on college campuses, whether they be professors, academic advisers, clinicians, physicians, or policy-makers. In the current Study, Substance Abuse was a strong predictor of poor bereavement-related outcomes across the board. While these behaviors were not endorsed at a high level (it had the lowest corrected mean of all of the

subscales), they had a strong enough impact among the participants that screening for Substance Abuse among bereaved students presenting for assistance is warranted. University policies aimed at raising awareness of bereavement on college campuses as suggested by Balk (2001) should also include information regarding the availability of Substance Abuse resources.

Certain limitations present in Study 2 can also inform future research. For example, the sample size of Study 2, although large, may have been underpowered for the analyses conducted once the sample was partitioned into 2 subsamples. The sample sizes of the subsample met new criteria based on the communalities and the ratio of items to factors once a finite number of factors was extracted. However, the presence of a Heywood case in the initial extraction during exploratory factor analysis suggests that the sample size may have been too small which prevented the testing of a model which extracted a large number of factors with a relatively small number of items. Future research, particularly with regard to developing coping scales which tend to be broad in scope, should plan sample sizes with the ability to extract 10+ factors.

Another limitation to the current study also relates to the sample: only approximately 25% of participants suffered a violent loss even when conservative criteria were used (e.g. including losses due to accidents). This method of measuring the impact of a loss is also imperfect, as some losses due to illness may be traumatic, while some losses due to accident may not be. Future studies will benefit from focusing more specifically on the performance of GCOPE subscales with specific subsets of bereaved college students. A good example of

this is the work of Sikkema et al., (2000) who focused several studies on examining the role of coping strategies in adjusting to AIDS-related bereavement.

Decisions made during the scale development process can also be viewed as limitations, although the author had a specific rationale for each choice. For example, many items included in the initial item pool had content which related more to outcomes than to coping behaviors (e.g. "I have trouble concentrating"). Some scale development studies use a phase of expert opinion in order to reduce and reword items as part of the process of demonstrating content validity (Devellis, 2003). In the current study, it was deemed important to cast a wide net with a variety of items as opposed to making assumptions regarding what items truly represented coping strategies. The general philosophy of the researcher was to let bereaved students act as their own experts. After two phases of qualitative data collection and analysis the use of a panel of experts to evaluate items was deemed unnecessary. However, it is certainly possible that the inclusion of items related to the outcomes of bereavement, such as those that largely compose the Depression subscale, may have influence the exploratory factor analytic process. A choice was also made to include non-normal items in analysis even though it may have contributed to difficulty with obtaining model fit. The Substance Abuse subscale is largely composed of these items which were retained on qualitative and conceptual grounds, but they may have influenced the model fit process which later resulted in the trimming of additional items from the measure. In fact, it is suggested that future studies consider subjecting the 56-item GCOPE to a larger independent sample in order to assess whether the larger version of the scale shows better fit under those conditions.

These limitations aside, Study 2 was successful in both generating a measure for future research, and beginning the validation process for that measure. The GCOPE shows promise for use with sub-populations of bereaved college students, and its brevity, relatively brief time specifier, and inclusion of a depression subscale may also make it a useful clinical assessment tool. Future studies should continue to examine the psychometric performance of the GCOPE and its clinical utility.

Overall Conclusions and Future Directions

Stress-and-coping models of grief show promise in expanding our understanding of the grief experience beyond the psychodynamic (Deutsch, 1937) and stage models (Kubler-Ross, 1969) that have previously been popular in the literature. It is now understood that only a small subset of bereaved individuals require clinical intervention (Allumbagh, & Hoyt, 1999; Bonnano, 2004) and are at risk for poor outcomes (Prigerson et al., 1997). Stress-and-coping approaches (e.g. Lazarus, & Folkman, 1984) reflect this “extraordinary variability” (Wortman, & Boerner, 2007, p.285), as they allow for people to grieve in individual ways, both adaptively and maladaptively. However, the majority of the bereavement literature is based on data from spousally bereaved older adults (Stroebe, Schut, & Stroebe, 2003). There remains a large gap in the literature in terms of the effects of loss of a friend, or loss of an extended family member, both of which are the most frequent losses experienced by college students (Balk, Walker, & Baker, 2010). This is particularly troubling as up to 40% of emerging adult college students have experienced a recent loss (Balk, Walker, & Baker, 2010; Balk, 1997). The Dual Process Model of Coping with Bereavement has been hypothesized as one way to describe the idiosyncratic ways that individuals cope with and find growth in their

grief over time (Stroebe, & Schut, 1999). However, efforts to test this model (e.g. Bennett, Gibbons, and Mackenzie-Smith, 2010; Wijngaards-de Meij, et al. 2008) have been hampered by measurement issues, and the appropriateness of the DPM has not been examined in a college population. These issues are also reflected in the general stress-and-coping literature, where there has been a call to “move away from global assessments toward specifics” in order to pinpoint “what it is that is being coped with,” (Lazarus, & Folkman, 1984, p. 317).

The current study aimed to address the flaws asserted above through the use of a mixed-methods scale development design focused on a specific at-risk population that has been underrepresented in the grief literature: bereaved college students. The primary goal of the study was the creation of a self-report measurement tool for assessing the use of coping behaviors by bereaved undergraduates (the *GCOPE*). To this end, a three-phase study design was implemented. A Pilot Study resulted in the refinement of focus-group methodology, and a formal focus-group in Study 1 provided qualitative data for use in generating a large item pool. Independent exploratory and confirmatory factor analyses in Study 2 resulted in the reduction of the item pool into a coherent and parsimonious multi-factorial model. The primary hypothesis of the project was that the measure developed would show a structure consistent with the DPM (i.e. a 2-factor orthogonal structure). Secondary hypotheses were related to the generation of evidence for the construct and predictive validity of the final instrument. Although the primary hypothesis was not supported, the current set of studies still contributes to the literature in a number of important ways.

The primary contribution of the current study to the literature was the creation of the *GCOPE*, a 5-factor measure of the grief and coping experiences of bereaved undergraduate

students. The factors that were retained appear to describe a variety of aspects of the college student grief experience, both positive (Religious Coping, Restoration, and Support-Seeking) and negative (Substance Abuse, Depression). They were also largely consistent with the description of college student grief obtained from the qualitative analyses. A number of features of the GCOPE make it unique within the literature. First, it was developed using a mixed-methods design, where bereaved students themselves were called upon as experts in generating content for use in item development. This likely contributes to the content validity of the GCOPE (Vogt, et al., 2004), such that the GCOPE is believed to accurately reflect the coping behaviors and experiences of bereaved students. Second, the instruction set of the GCOPE specifies a finite time-period (i.e. 2 weeks) for participants to reflect on. This may prove useful in future longitudinal research as it allows the measure to potentially be sensitive to changes in the use of different coping strategies over time. Third, the GCOPE contains a subscale with content related to depression symptoms and the experience of negative emotion. This was initially viewed as a potential weakness, in that the subscale did not appear to truly measure coping behaviors. However, in terms of efficiency of measurement this subscale improves the clinical utility of the GCOPE as it allows for screening of both coping behaviors and negative emotional states within a single measure. Although the GCOPE will require further research to build evidence for its psychometric soundness, particularly with regard to predictive validity, it performed well on a variety of analyses of construct validity.

The qualitative data collected in the Pilot Study and Study 1 also contribute to the literature by expanding our understanding of the phenomenology of college student grief. Seah and Wilson (2011) conducted interviews with 6 bereaved college students and developed themes which they discussed as being applicable amongst bereaved emerging

adults. However, their research produced primarily positive coping strategies (e.g. finding meaning, finding benefits). The qualitative data in the current study provided information on grief experiences that are adaptive (e.g. focusing on new relationships; preserving positive memories), maladaptive (e.g. substance use) and variable depending on the circumstance (e.g. throwing oneself into schoolwork; avoiding difficult reminders). However, further qualitative research should be conducted with this population in order to gather a broad perspective on college student grief with larger samples, as only one formal focus-group with three participants was conducted in Study 1. Particular attention should also be paid to subsamples of bereaved college students, such as those who have suffered a traumatic loss (e.g. homicide or suicide) in future studies, as interactions found in Study 2 suggest that type of loss may be meaningful in determining the impact that coping strategies have on outcomes for bereaved students.

A third potential contribution to the literature arose from methodology developed during the Pilot Study. In the Pilot Study, students who participated in the focus-groups were given the opportunity to interpret the results of their own focus-group by answering an open-ended question (i.e. “*What important coping strategies did you learn about during the focus group?...*”) in an online survey. Open-coding of these responses resulted in a list of 11 coping strategies which were mentioned in at least one student response, and these responses were largely consistent with the general stress-and-coping literature and the qualitative data collected later in Study 1. This methodology is related to an emerging subset of focus-group research called “participatory” or “power-sharing” methods (Redman-MacLaren, Mills, & Tommbe, 2014). These methods are designed to balance the influence of the researcher’s perspective with the perspective of the participants themselves. However, to the author’s

knowledge, this method is generally used during secondary data analysis as opposed to being used as a method for initially interpreting focus-group data. Upon reflection, enlisting participants to interpret their own focus-group discussions is very much in the spirit of suggestions in the literature for improving content validity, where authors have advocated for polling members of the population of interest as experts (e.g. Vogt et al., 2004). Future studies may benefit from the use of this participant-interpreter method of focus-group analysis in more formal research designs.

Perhaps the most striking contribution of the current set of studies to the literature was the identification of substance abuse as a prominent issue among bereaved college students. Drug and alcohol use is well-documented among college students (e.g. Dawson, Grant, Stinson, & Chou, 2004) and has also been linked to trauma exposure in college populations (Read, Griffin, Wardell, & Oimette, 2014). However, the link between bereavement and alcohol use has only been studied infrequently (e.g. Prigerson et al., 1997), and to the author's knowledge it has never been explicitly studied in a college population. Notably, substance abuse was prominent in all three phases of the current study. During GCOPE validation the Substance Abuse subscale also consistently predicted negative responses to bereavement across four different outcomes, above and beyond the influence of demographic variables and characteristics of the loss experience.

These findings have implications for research, clinical practice, and University policy. Qualitative data suggested that students turn to substance abuse as a coping method because it feels normal, acceptable, and is consistent with the "fun" college persona that students identify with. In this regard, University counselors may consider administering the GCOPE

as a screening measure during intake sessions with bereaved students in order to quickly assess their substance abuse behavior. Balk (2001) has suggested that Universities make education about grief and access to resources available and visible to students more generally. The research in the current study suggests that information about the risks of drug and alcohol use should be a part of these public health efforts. Finally, one recent study has begun testing an intervention specifically for individuals with co-occurring complicated grief and substance use disorder (Zuckoff et al., 2006). However, this study was completed with bereaved adults. The current research provides a strong argument for studying the effectiveness of this intervention on college campuses as well.

A final contribution of this dissertation to the literature is the examination of self-rated health as an outcome measure in bereaved college students. Although there has been some indication that bereavement affects subjective ratings of health (Prigerson, et al., 1997), this is the first study to the author's knowledge which examined self-rated health among bereaved emerging adults. Grief was shown to have a significant negative impact on self-rated health ($r = -0.25$), as did substance abuse ($r = -0.27$) and depression ($r = -0.48$). Furthermore, modest but significant interaction terms provided evidence for a moderating effect of type of loss (violent vs. nonviolent) on the relationship between Religious Coping and Support-Seeking and self-rated health. It appears that these coping strategies have a greater impact on self-rated health among those who have suffered a violent loss.

These data show preliminary support for several hypotheses which can be examined in future research. First, it appears that self-rated health may be impacted more by traumatic or violent losses than by losses due to illness. However, these categorical measures are

imperfect, as whether a loss is “traumatic” or not is largely subjective. Future studies should examine the predictors of self-rated health among the bereaved in detail, particularly with respect to demographic factors and circumstances of the loss experience such as relationship to the deceased, closeness to the deceased, and grief at the time of death. Second, these data suggest that coping strategies have different influences on self-rated health for different subsets of bereaved students. Stated another way, as opposed to college student grief, there may be college student griefs which need to either be examined independently as separate populations, or controlled for as moderating variables. Finally, longitudinal studies of the interaction between loss, coping, and self-rated health may help to disentangle the fundamental question of all coping studies: *what works for whom and under what conditions*.

Future Directions

As with any research project there were a number of limitations to the current research which should be corrected in future studies. For example, the Pilot Study was primarily used for training facilitators and refining the focus-group facilitation guide. The groups were not audio-recorded, formal qualitative analyses were not used, and complete demographic information on the participants was not available. Study 1 utilized a more thorough qualitative analysis process by completing a content analysis of the focus-group transcript. However, attendance of the focus-group was low and only one focus-group was completed. Combined with the data generated from the Pilot Study, the results were deemed sufficient for the item generation segment of the scale development process. It could be argued, however, that sampling was insufficient to generate a truly all-encompassing description of the college student grief experience. Study 1 also lacked any participants who had suffered a loss due to

homicide or suicide, and the types of loss suffered by the Pilot Study participants was not systematically collected. The item pool of the GCOPE may therefore represent the coping strategies and experiences of college students who have suffered non-traumatic losses as opposed to representing all bereaved college students.

Another potential weakness related to the item pool was the decision not to use an expert panel of raters to reword items and assist in initial item reduction. The author instead chose to enlist three consultants from his research lab to generate items and then allow the empirical process of exploratory factor analysis reduce the items. Although this is largely a question of research philosophy, it could be argued that the presence of weak items during the initial factor extraction influenced the final factor model.

Additional limitations also apply to Study 2. For example, although the overall sample-size of Study 2 was large ($N = 700$), it may have been underpowered once it was partitioned into two subsamples for exploratory and confirmatory analysis. The sample met criteria for power based on the communalities and the ratio of items to factors once a finite number of factors was extracted, but the presence of a Heywood case during initial factor extraction indicates that possibility that the sample was too small when attempting to extract a large number (30+) of factors. Another limitation to the current study also relates to the sample: as with Study 1, traumatic losses were underrepresented in Study 2. The sample was consistent with other studies on the types of losses commonly experienced by college students (e.g. Balk, Walker, & Baker, 2010) in that the majority of participants reported experiencing the loss of an extended family member or friend, and most had experienced a loss due to illness. Still, only approximately 25% of participants suffered a violent loss even when

conservative criteria were used (e.g. including losses due to accidents). This suggests a need for future studies to more thoroughly assess the psychometric properties of the GCOPE among those who are bereaved by homicide or suicide.

Closing Statements

In conclusion, although the GCOPE does not appear to directly reflect the factor-structure implied by the Dual-Process Model, the results of this study provide initial support for the psychometric properties of the measure. The GCOPE appears to represent many important domains of coping and grief experiences as elucidated by students during qualitative phases of the study. It also performed well on multiple indicators of construct validity. Additionally, secondary analyses suggested that self-rated health is an important outcome variable among bereaved college students, and pointed toward possible interaction effects which should be examined in future studies. Finally, initial evidence also suggests that this scale might have clinical utility as well as implications for University policy. In summary, the goals of this dissertation study were met along with some unexpected findings which contribute to the literature and the curiosity of the author.

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List of References

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Appendix A

Focus Group Facilitation Guide

I) Welcome/Introductions

Hello to everyone, welcome and thank you for agreeing to be part of our focus-group today. My name is [FACILITATOR NAME], and this is my colleague [COFACILITATOR NAME]. We are all here tonight because the world needs to know more about how you all experience and deal with grief. It may surprise you to hear this, but college students have largely been ignored in the study of loss. We are glad that you have volunteered to share about your experiences, and we think that the things that you share with us tonight will benefit others in the future. We will be guiding you through the group, but our primary job is to help you to feel comfortable opening up and sharing your experiences with regard to your loss. As promised we have provided a selection of snacks and drinks for you to enjoy and get comfortable. The formal group will begin in approximately 15-20 minutes. In the meantime, enjoy these snacks and take this time to briefly get to know one another.

II) Orientation

Okay everybody; it is time for the focus-group to begin. Thank you all again for your participation. You've been invited here today to try to help us understand what college students actually do to cope or deal with loss, *not* what teachers or researchers think students do. Sadly, everyone here has suffered a significant loss within the past two years. Surprisingly, no one has ever actually asked how college students are affected by and cope

with experiences like these. Today we'd like you to join our discussion as an expert, because only you really understand what you have been through. We want to emphasize that we aim to learn about your experiences while also treating your loss with the utmost respect. People experience and deal with death in different ways, none of which are necessarily right or wrong. We are most interested in how each of you describes your loss experience, the impact that it has had on you, and what has been helpful or unhelpful as you grieved. We hope to create a safe space in these discussions so that each of you can share parts of your experience with us. We will be discussing topics of a personal nature, so we want to emphasize that your privacy is a priority for us.

III) Consent

You will find in front of you a form explaining the process that we are about to go through. This information is identical to what you read on the SONA website when you registered for the group. Please take a moment to read over the document carefully. Important things to note are:

- 1) We will be discussing topics of an emotional and personal nature. We hope that you feel comfortable sharing your experiences openly, but we also urge to only share what you feel comfortable sharing.
- 2) To protect your identity, we will ask that you only use first names when introducing yourself or addressing another group member.
- 3) The group is being audio recorded so that we can separate out the things that you share, to hopefully create a sort of list of what college students generally find helpful and unhelpful when dealing with loss. Your full names will not be transcribed and your names will not be connected to specific statements or data as

we conduct our analyses. There will be no way to connect your to the data we collect after we collect it.

- 4) University Counseling Services is a free service for you here at Virginia Commonwealth University. If you feel that you could benefit from working with a counselor to help you through your grief or for any other issue, you are eligible to 12 or more sessions with a counselor. There are also groups available in the same location. Please make note of the contact and location information on your copy of the consent form. Do not hesitate to contact UCS if you are in distress or feel that you may benefit from someone to talk to.
- 5) Participation is completely voluntary. If you do not wish to participate in the focus group, you are free to leave at any time with no penalty to your SONA credit.
- 6) If you have read and understood the consent document, you may sign it at this time, pass the signed copy to [CO FACILITATOR's NAME] and keep the second copy for yourself.

IV) Group Guidelines

Before we begin, let me mention a few things about how we usually conduct these groups. It is important to point out that what we are doing here tonight is very different from group therapy or a support group. While it is true that sharing may be helpful, our goal is to learn about your experiences so we can use that information to help others in the future. If you like the group format, or feel that you could benefit from a support group, please feel free to contact University Counseling Services:

- 1) I will be the facilitator for the group. My role is to ask the questions we have for the group, and to encourage everyone to participate. I won't be doing much talking, but may ask you to

explain more or to give an example. Also, it's my job to see that everyone has a chance to voice their opinions, as well as to keep us moving along so that we have time to discuss all of the questions. So, at times, it might seem as though I am cutting you off, and this is not meant to be rude but rather to make sure that we have time to hear from everyone on each question. Since we only have until (STATE TIME HERE), we won't have time to hear every detail of each person's situation. We know that you have each been through your own experience and that sharing your experience with others can be helpful. We hope you'll understand that for these next 1½ hours we will ask you to focus on the general topics we suggest. That being said, we are aware that we may not have all of the right questions to help us understand your loss and how you are coping with it. We encourage you to elaborate beyond the specific things we ask you about, and also to weigh in on what others have said. Allow me to worry about managing the groups time, and all of you can simply focus on sharing your experiences with us! Also keep in mind that you can take extra time after the group is finished to talk more with each other if you wish. We want to thank each of you for being here, so please know that we value your ideas and comments.

2) It's really important that everyone hear this: THERE ARE NO RIGHT OR WRONG ANSWERS! Each person's experiences and opinions are valid, and we want to hear a wide range of opinions on the questions we'll be asking. So, please speak up, whether you agree or disagree with what's being said, and let us know what you think. If you feel that you wish to weigh in on what someone else has said, but do not want to interrupt them, feel free to *raise your hand*. It may feel a little bit like a classroom, but it will help me to know when someone has a comment that they feel is relevant.

- 3) Sometimes participants bring up sensitive issues during these discussions, and we want to be sure that everyone agrees before we begin the group that anything of a personal nature that is mentioned in this room will NOT be repeated to others outside of this discussion group. Can I see a nod from everyone showing me that you to protect each others privacy? (If anyone is not willing to give their consent to confidentiality, they may be excused from the group.)
- 4) Let me tell you about our recording process. As you can see, we have a digital recorder today. We usually record these focus groups because we want to get everything that all of you say, and we simply can't write fast enough to get it all down. We use first names only in the transcript, and when we put together the results from all the groups, we don't include any names. It is VERY IMPORTANT that we speak ONE AT A TIME, so that we have a good quality recording.
- 5) You all remember [CO FACILITATOR's NAME]. He/She has a special job during these discussions. While you all are sharing, and I am suggesting topics for discussion and guiding the group, [CO FACILITATOR's NAME] will be writing notes about the overall themes that we hear in what you are saying. This means that [CO FACILITATOR's NAME] will not be taking a speaking role in the group. Please don't bother addressing questions to him/her, just allow him/her to listen carefully and take notes.
- 6) Let me mention before we start, that we plan to be finished with our discussion by STATE END TIME.
- 7) In case anyone needs to use the restroom, they are located _____. One last thing, we ask that everyone turn their cell phones off or to silent mode so that we can begin our discussion. Thanks.

V) **Facilitation – Topics and Prompts**

I) I know most of you have already met each other, but let's start with a little introduction anyway. Let's go around the room and say:

-Your first name

-Your class rank here at VCU

-Tell us who you lost, and how long ago

Now we are going to discuss your loss experiences. We are particularly interested in THE IMPACT that your loss has had upon different parts of your life. How was it affected how you think, what you do, how you feel, your circumstances, and the people around you.

II) What *specific impacts* has the loss had on your life?

GENERAL PROBES: -In what ways has it changed your life?

-In what ways has it changed how you see yourself and the world?

SPECIFIC PROBES: -Has the loss affected you emotionally?

Alt: mentally, psychologically, mental health

- Has the loss affected you academically?

Alt: grades, classwork, school

-Has the loss affected you financially?

Alt: income, economic situation

-Has the loss affected your health?

Alt: physically, your body

- Has the loss had an impact on other important relationships?

Alt: *how you get along with other*

-Has it impacted your social life?

-Your family life?

-Has the loss affected how you see the world?

-Religious beliefs?

-Spiritual Practices?

-Has it affected your behavior?

Alt: *what you do, how you act, your habits*

III) What has been *most difficult* for you since you experienced the loss?

*Next we want to talk about what you have done to try to COPE WITH or DEAL WITH your loss, including how you have dealt with ALL OF THE IMPACTS that we have been talking about. It may help to give you all a definition of what we mean by coping. Coping means your **cognitive** and **behavioral** efforts to manage (reduce, minimize, master, or tolerate) the **internal** and **external** demands that your loss has placed upon. Please keep in mind, we are not worried about whether a coping behavior was HELPFUL or not. We want to learn AS MANY different ways of dealing with loss, both helpful and unhelpful, as we can.*

IV) Talk about how you coped with/dealt with the loss of your loved-one

GENERAL PROBE: - What have you found helpful in dealing with your loss?

- What has been detrimental in dealing with your loss?

SPECIFIC PROBES FOR ASPECTS OF LOSS EXPERIENCE

STEM: How did you cope or deal with.....

[FILL IN WITH PERTINENT RESPONSES FROM THE SECTION ABOVE]

E.G.

-Difficult emotions

-Financial issues

-Schoolwork

- Physical problems/health
- Conflicts in your family
- Changed relationships with friends
- Challenges to worldviews and religious beliefs

SPECIFIC PROBES FOR TYPES OF COPING [IF NOT COVERED ABOVE]:

Rituals

- Have cultural rituals or family traditions helpful you cope with your loss? One example of this would be the way your family conducted the funeral or wake.

Continued Bonds

- Have you attempted to maintain a relationship with your lost loved-one?

Religious/Spiritual Coping

- Have religious/spiritual beliefs and practices played a role in coping with your loss?

Social Support

- Has the support of others played a role in coping with your loss?
- Who have you most drawn support from during this difficult time?
- Have others been helpful in practical ways?
- Have others been useful in providing sympathy and understanding?

Community/Professional Resources

- Have the resources at the University been helpful to you in coping with your loss?

- Have you had contact with any mental health professionals through VCU?
- How have your teachers responded?
- Has student health been helpful?

Disclosure/Expression

-Has sharing your emotions/feelings with people been a part of your coping process?

- Has sharing about your lost loved-one affected your grieving process?
- Have you used any forms of artistic expression to cope with your grief?

Positive reappraisal/Meaning-Making

- Have you tried to change the way you think about the loss?
- What has helped you to make sense or find meaning in your loss?
- What has helped you to find benefit in your loss?

Avoidance

-Have you tried to avoid thoughts, feelings or painful situations? How has this been a part of your coping process?

Humor

- Has humor been a part of your coping process? If so, how?

V) Sometimes what is helpful in a situation can change over time. Describe how your coping efforts have changed over time.

PROBE: What was helpful when you first lost your loved-one that was not as helpful later on?

- What was not helpful at first, but became more helpful with time?

VI) Are we missing anything important about your loss experience, what you have been through, or important ways that you have dealt with it?

Appendix B

Focus Group Facilitator Training Guide

- **The General Approach of the Facilitator**

Your Role as the Facilitator

It is important to present yourself as a researcher rather than a friend. You will need to let participants know that you are part of a team that is conducting research for a community needs assessment. This formality communicates to participants that their participation is important and contributes to the community.

Balancing Rapport and Professionalism

Part of your role is to achieve a balance between building rapport with participants and conveying an appropriate level of professionalism. Your role during focus groups is not that of a good conversationalist or a friend who provides feedback, but a professional. If you are too casual, participants may not see you as someone who is prepared to take what they have to say seriously. However, if you are too formal, participants may feel intimidated by you and may not be as willing to reveal information. Strive to achieve a balance between being formal and casual during your focus groups.

Recognizing and Appreciating Participants for their Time and Contributions

This is one of the most important things you can do to help create rapport. Remember to thank participants for their time and participation. Let them know that the information they have shared is valuable for this project.

Listen Carefully to Participants

Active listening allows you to probe effectively and at appropriate points during the focus group. Active listening involves not only hearing what someone is saying, but also noticing body posture and facial gestures (i.e., any changes in nonverbal behavior) that might provide cues as to the appropriate or necessary ways to engage participants.

Show Participants You Are Listening

Show participants that you are listening to what they are saying. Signs that you are paying attention may include leaning forward slightly, looking directly at participants while they are speaking, or nodding at appropriate times. Such behaviors not only indicate that you, as the facilitator, are more engaged, but also help maintain the engagement of the participants, themselves. Looking away, yawning, or frequently checking your watch will most likely make participants feel that you are not listening. If participants suspect that you are not

listening to them with great care, they may take their role of sharing expert knowledge less seriously and, therefore, may not elaborate or provide much detail with their answers.

The Importance of Neutrality During the Interview

While showing participants that you are actively listening and interested in what they are sharing, you will also want to remain as neutral or impartial as possible, even if you have a strong opinion about something. Use phrases such as “Thank you. That is helpful.” Comments such as “I can’t believe it!” or “You really think that?!” are not appropriate remarks for a facilitator to make, because they infer your opinion and impose judgment on the participant, which will shut down discussion.

Gathering Honest Information

You want to gather information during focus groups that is as honest as possible. If participants sense that you have an opinion, they may want to change their responses so that they will seem more socially desirable, rather than reflect what they truly believe or feel about a topic.

Silence Encourages Elaboration

Allowing silence at times encourages elaboration by participants because it gives them a chance to think about what they want to say. More often than not, participants will fill the silence with more information. However, it is important to strike a balance between keeping the conversation moving (so that you use your time well) and allowing participants adequate time to share and process what has been shared.

- **Wording Prompts and Encouraging Clarification**

Probes and clarifying questions are an important part of interviewing and have two main purposes: to help clarify what an interview respondent has said and to help get more detailed information on topics of interest. Probes allow the interview respondent to provide more than just a one-sentence answer to the questions you ask.

Basic Techniques to Encourage Elaboration

- *Repeat the question* – repetition gives more time to think.
- *Pause for the answer* – a thoughtful nod or expectant look can convey that you want a fuller answer.
- *Repeat the reply* – hearing it again sometimes stimulates conversation
- *Ask when, what, where, which, and how questions* – they provoke more detailed information
- *Use neutral comments* – “Anything else?”
- *Toss it out to the group* – “Who else would like to give their perspective on what was just said?”

Examples of Probes

Some good examples of probes used to help clarify what an interview respondent has said include:

“Please tell me (more) about that...”

“Could you explain what you mean by...”

“Can you tell me something else about...”

An example of a probe that you would not want to use is:

“So you’re telling me that Right?”

Keeping Them Talking

As a general rule, you want to interrupt the interview respondent as little as possible, unless you are attempting to manage the time for the group. If you feel that you need to follow-up with something they said by using probes, make a mental note of it and ask them about it when they have finished their thought.

Probing in Not Finishing Their Thoughts

Again, you want to show the interview respondent that you are there to listen to what they have to say. Interrupting the interview respondent may influence how they answer and if they answer the questions you ask. If an interview respondent strays off course, encourage them to finish their thought. After they have finished their thought, it is appropriate to bring them back to the question you asked to make sure that they have answered it completely.

Seeing Things From Their Perspective

Using probes for clarification helps you to gather good information while avoiding the assumption that you understand the meaning of a key word, phrase, or perspective of the interview respondent. Probes such as the ones above help you see things from the perspective of the person being interviewed.

Avoid Making Assumptions

Clarifying questions and probes gives the interview respondent clues as to how specific you would like their answers to be and asking them for clarification, details, and examples. The opinions of the respondent should not be assumed by the interviewer. To help ensure that you are not assuming, make small steps in your questioning with simple questions, not big leaps. This way you will get more detail and elaboration from the interview respondent and will keep you from making assumptions about what they have shared.

The Interview Respondent Is The Expert

Using probes to clarify what the interview respondent has said reinforces the fact that the respondent has expert knowledge, based on their direct experiences with the topic that the researcher wants to understand. Good probes let the interview respondent know that you are listening to their answers and that you would like to know more detail about where they are coming from about the topic. This also helps to establish the rapport that is so important to the interview process.

Good Probing is Not Leading

It is important to avoid asking questions that are leading, meaning that they reflect your opinions or assumptions about a topic.

Avoid Asking Leading Questions

An example of a leading question is “Don’t you think...” This presents to the interview respondent that you have an opinion, not that you are there to learn from them as an unbiased listener. This type of questioning may lead the interview respondent to answer questions according to what you expect to hear, rather than how they really feel. The interview respondent may also want you to look at them in a favorable way, matching your opinions rather than sharing what they truly believe or have experienced. Related to the guidelines to interviewing, you want to stay as neutral as possible during the interview.

- **Managing Focus Group Time**

Managing Time During the Interview

Individuals love to talk about their experiences and may have a tendency to go on and on about them. Here is where your skills as an interviewer are put to the test. As the interviewer, your job is to structure the interview in such a way that you elicit a complete response to questions, probing insightfully so that you get the level of detail you need in order to the issues adequately.

Basic Conversation Management Skills

- Setting the frame
- Looking for natural pauses and openings
- Polite Interruption
- Summarizing
- Checking-in on how much time is left

Keep the Interview Moving

It is also your job to politely move the interview forward when what the respondent is sharing is less useful given your research questions. Sometimes, it is possible to do this by listening for a segue – something that the respondent talks about that is relevant to another question or set of questions. Other times, you may want to acknowledge that your time together is waning and there are some other aspects of their work and experience that you want to be sure you have time to learn about and explore, and, for this reason, you are going to move on.

Check With the Group

At least once during the interview, ask the group how they are doing with time. Use your perceptive abilities to sense if there is a feeling of strain on the part of the respondents to participate in the interview. If he or she has had another commitment come up since you scheduled the interview with him or her, there may be a feeling of being rushed. It is polite to check in, and it also allows you to move to the most critical questions in case that you must end the interview early. It is also important to periodically remind the group of the time that is left in the focus-group period.

Efficient Use of the Interview Guide

A well-developed interview guide will have built-in prompts that remind you, as the interviewer, to do a time check periodically to make sure that the interview is progressing appropriately. Another strategy is to listen for relevant information to questions that you have not yet asked so that you can skip these later. If you do run out of time before you have covered all the questions in the interview guide, be sure to use your remaining time asking and exploring only the most important questions remaining. The more familiar you are with the interview guide, the easier it will be for you to prioritize particular questions and to recognize when the respondent has already provided relevant information (indeed, adequately answered) questions you have not yet asked. This will ensure that your questions do not feel redundant to the respondent and that the interview, overall, flows smoothly and efficiently.

Not Rushing the Interview Respondent

Overall, you want to achieve a balance between collecting necessary information and gathering important data that have not been anticipated. Sometimes it can be difficult to tell the difference until you ask clarifying questions or probes. Again, you want to make sure that you interrupt the interview respondent as little as possible and not rush them with their answers while keeping them on course with the interviewing guide.

- **Troubleshooting Difficult Situations**

What do I do if someone is dominating the conversation?

Focus groups, ideally, allow researchers to collect the opinions and ideas of a variety of people. If someone is doing a lot of the talking, however, this may prevent others from contributing their thoughts, and limits the usefulness of the focus group. It is important to notice when this is happening and do what you can to try to make sure that other people have the opportunity to say things, even if they seem reluctant at first or insist that what is being said by others reflects what they would have said. It is important to have people say things in their own words as much as possible. If someone is dominating the conversation, you might want to respectfully acknowledge their contribution, and thank them, saying something like, “I really appreciate your comments.” Then make direct eye contact with other people and ask something like, “I’m very interested in hearing how other people are feeling about this issue” or “It’s very interesting to get a variety of perspectives, and I would like to hear from other people as well.”

What do I do if no one responds to a question?

In this kind of situation, it is helpful to try to understand why people aren’t responding.

- ***Did you ask a question that was difficult for the participants to understand?***

If you think this might be the case, you might try asking the question in a different way. The more familiar you are with the research objectives of a particular focus group, the more successful you will be in rephrasing or rewording a question in an appropriate way that ensures that salient issues are explored and the research integrity of the group discussion is

maintained.

□ ***Do you think you might have asked a politically sensitive question (i.e., something that people are afraid to answer honestly because it might make other people angry)?***

If you think this might be the problem, you might move to a different question or topic that is less sensitive, and try coming back to the topic later, or use probes, during a different line of questioning, that might get at aspects of the sensitive topic but more subtly.

Here, again, it might be helpful simply to rephrase the question or ask a slightly different question. Either approach may make it possible to pose a less controversial question to the group

Are people tired of talking about the topic and/or do they have no more to say about a topic?

In this case, it may be important to simply state, “Is there anything else that you would like to share? [pause] If not, we can move on to our next question.” This communicates to participants that this is their opportunity to contribute any additional thoughts and allows you to move on to the next topic more naturally and politely. If you, as the facilitator, think you haven’t gotten all of the information you want on that topic, rather than trying to force things, just be aware that there may be an opportunity to elicit salient information in probing that occurs with respect to other questions. In other words, there may be important linkages and connections to explore throughout the focus group that emerge through subsequent discussion.

Are people feeling uncomfortable about talking?

This typically occurs at the beginning of a focus group and is less likely to occur when focus groups start with an icebreaker or the facilitator is able to set a comfortable tone and put people at ease in the beginning. If, however, this continues to be an issue during the focus group, you may need to back up and do a little work to make people feel more comfortable. Talk about easier topics, things that you think participants may be more familiar with or comfortable talking about, or, perhaps, things that you know are particularly interesting to them. This may help the participants begin to feel more comfortable talking in a group setting. If no one responds to a question, and you aren’t sure exactly what the problem is, it’s okay

sometimes to just wait it out. Be quiet for a moment and allow people time to think. Often, someone will speak up, either to answer the question or to ask a question that allows you to have a better understanding of the silence.

What do I do if the group begins to talk about topics that are not relevant to the research?

Sometimes the conversation will start to stray away from the topics of the focus group. When this happens, you might take advantage of a pause and say, “Thank you for that interesting idea. Perhaps we can discuss it in a separate session. For the purposes of exploring further the specific topics that are the focus of this discussion, with your consent, I would like to move on to another item.” Another strategy is to orient the group to the time you have remaining for your discussion. You do not want the duration of the focus group to extend beyond the

amount of time you communicated to participants. You may want to mention this when discussion strays from the intended focus, and then refocus the discussion accordingly or use this as an opportunity to indicate that you want to be sure that you hear from others.

What do I do if people are having side conversations (i.e., conversations among themselves)?

If people are having conversations among themselves, it can disrupt the focus group by making the other participants feel uncomfortable, making it hard for people to hear what others are saying, and making it hard for the facilitator to focus on what is being said. One of the best ways to handle this situation is to address it before the focus group begins, when you tell the participants about focus group ground rules. Stress that it is *very* important not to have side conversations because it interferes with individual's full participation in the group discussion and also poses challenges for recording the discussion. If side conversations do occur during a focus group, do not stop the conversation abruptly. You might respectfully remind people of the ground rules and ask that people finish their conversations and rejoin the larger group discussion taking place. This kind of disruption may also signal that it is time to take a break, and you may want to suggest no more than a five minute break (so that people can use the restroom – make sure people know where to go – or to stretch). It will be important to make sure people know at one time the focus group will continue and be proactive about bringing people back together so that the focus group can re-convene.

What happens if an interview respondent skips ahead, providing information relevant to, or even completely answering, a question that I haven't gotten to yet?

At times participants may skip topics or move ahead of where you are in the focus group guide. You will want to use probes to get detailed information from them on the topic at-hand, and then gently return the person to the topic of interest, falling back on the focus group guide. You do not want to interrupt them; rather, let them finish their thought and remain an interested listener. If they have already answered a question on the focus group guide you will still want to ask the question when you get to it, acknowledging that relevant information may have already been shared, but you want to make sure that the group has an opportunity to explore the issue more fully, if need be. You will want to make sure that all of the topics in the focus group guide are discussed as completely as possible during the discussion.

What do I do if I ask a question and the interview respondent says that they do not feel comfortable answering it?

An interview respondent may not feel comfortable answering a question from the interview guide. Or, it may be an issue of permission from a spouse to discuss the topic. This must be honored according to research ethics and informed consent, a respondent may elect to not answer any question at any time. At the beginning of the interview make it clear that they may decline to answer a question(s) or choose to stop the interview at any time. If this happens, say "thank you" and that you acknowledge and appreciate their honesty. Then, ask them if it would be okay to move on to the next question in the interviewing guide.

Appendix C

Demographic Questionnaire

Listed below are questions for the demographic section of the survey. Please provide a response for every question.

1. Age: _____

2. Gender: (Please choose one)

Male

Female

3. Class Rank: (Please choose one)

Freshman

Sophomore

Junior

Senior

Graduate Student

Other

4. Marital Status: (Please Choose one)

Single

Married

Separated

Divorced

Widowed

Long-Term Relationship (not married)

Living Together (not married)

5. Religious Affiliation: _____

6. Ethnicity: _____

7. Which of the following best represents your approximate family income, annually?

High (above \$150,000 per year)

High Middle (between \$90,000 and \$150,000 per year)

Middle (between \$50,000 and \$90,000 per year)

Low Middle (between \$25,000 and \$50,000 per year)

Low (less than \$25,000 per year)

Appendix D

Characteristics of Loss

Listed below are questions for this section of the survey. These questions regard the loss of a family member, friend, or loved one. If you have experienced the loss of more than one significant other, please respond regarding your most significant loss experience from the past 2 years. Please provide a response for every question.

1. Which of the following best describes your relationship to the deceased (for example, if you are a parent of the deceased, select "parent").

Parent Sibling Grandparent Grandchild Extended family Friend
Acquaintance Spouse Significant other Other

2. How much time has elapsed since your loss occurred (please record your answer in months and years): _____

3. Which of the following best describes the circumstances of your loved ones death?

Accident Illness Homicide Suicide Military Casualty

4. To what extent was your loved ones death sudden or unexpected; to what extent were you able to “see it coming” ahead of time?

Very Expected

Expected

Unexpected

Very Unexpected

5. How much sense would you say you have made of your loss?

No sense

Little sense

Some sense

A good deal of sense

6. Despite your loss, have you been able to find any benefit from your experience of the loss?

No Benefit

Little Benefit

Some Benefit

Great Benefit

7. On a scale from 1 (extremely close) to 5 (not very close), how would you describe your relationship to the deceased?

1 2 3 4 5

8. Realizing that the loss of someone dear remains a part of you for the rest of your life, how would you characterize your grief at the time of the loss on a scale of 1 (I was completely overwhelmed by the loss) to 5 (I was quickly able to come to terms with my loss and go on with my life)?

1 2 3 4 5

9. Including your most recent loss due to death which you have been reporting on above, how many significant losses due to death have you experienced in your lifetime?

10. For your two most significant previous losses due to death, *not including your most recent loss which you have reported on above*, please list the amount of time, in months and

years, that has occurred since the loss, the circumstance of the loss, and your relationship to the deceased (if applicable).

I) TIME: _____

CIRCUMSTANCE: *Accident Illness Homicide Suicide Military Casualty*

RELATIONSHIP: *Parent Sibling Grandparent Grandchild Extended family*
Friend Acquaintance Spouse Significant other Other

II) TIME: _____

CIRCUMSTANCE: *Accident Illness Homicide Suicide Military Casualty*

RELATIONSHIP: *Parent Sibling Grandparent Grandchild Extended family*
Friend Acquaintance Spouse Significant other Other

Appendix E

Inventory of Complicated Grief

Please circle one answer to each of the following statements based on how you feel right now.

1. I think about this person so much that it's hard for me to do the things I normally do...

Never *Rarely* *Sometimes* *Often* *Always*

2. Memories of the person who died upset me...

Never *Rarely* *Sometimes* *Often* *Always*

3. I feel I cannot accept the death of the person who died...

Never *Rarely* *Sometimes* *Often* *Always*

4. I feel myself longing for the person who died...

Never *Rarely* *Sometimes* *Often* *Always*

5. I feel drawn to places and things associated with the person who died...

Never *Rarely* *Sometimes* *Often* *Always*

6. I can't help feeling angry about his/her death...

Never *Rarely* *Sometimes* *Often* *Always*

7. I feel disbelief over what happened...

Never *Rarely* *Sometimes* *Often* *Always*

8. I feel stunned or dazed over what happened...

Never Rarely Sometimes Often Always

9. Ever since he/she died it is hard for me to trust people...

Never Rarely Sometimes Often Always

10. Ever since he/she died I feel like I have lost the ability to care about other people or I feel distant from people I care about...

Never Rarely Sometimes Often Always

11. I have pain in the same area of my body or have some of the same symptoms as the person who died...

Never Rarely Sometimes Often Always

12. I go out of my way to avoid reminders of the person who died...

Never Rarely Sometimes Often Always

13. I feel that life is empty without the person who died...

Never Rarely Sometimes Often Always

14. I hear the voice of the person who died speak to me...

Never Rarely Sometimes Often Always

15. I see the person who died stand before me...

Never Rarely Sometimes Often Always

16. I feel that it is unfair that I should live when this person died...

Never Rarely Sometimes Often Always

17. I feel bitter over this person's death...

Never Rarely Sometimes Often Always

18. I feel envious of others who have not lost someone close...

Never *Rarely* *Sometimes* *Often* *Always*

19. I feel lonely a great deal of the time ever since he/she died...

Never *Rarely* *Sometimes* *Often* *Always*

Appendix F

Item Generation Guide

Goals/Guidelines

Below you will find the instructions for our one-day-to-be-created coping checklist. Our goal right now is to generate items that go along with this instruction set. Below the instructions is a list of Major Themes, Smaller Content Domains, and Specific Responses from our focus-groups. Using these, along with your own experiences with and professional knowledge of grief, I would like you to generate a variety of items for each domain, theme, or specific response. Even areas of the facilitation guide that did not generate many responses are fair game for item generation. We want to cast a wide net, we'll let the math refine it.

Our goal at the end of the day is to have approximately three to five items per content domain but this isn't strict. It is okay to generate more than one wording for the same item.

****NOTE:** Some of the EFFECTS of loss that our participants describe (e.g. getting angry, social withdrawal; going numb) could be seen as coping strategies as well, so these domains are included below.

RULE OF THUMB: If it is a behavior (including covert behaviors like thoughts and emotions) AND you can word it to fit with the instruction set, than it counts.

EXAMPLE: "stopped going to classes" is behavioral "failed a class" is more like an effect than a behavior

*****NOTE:** generate a wide array of items is more important than focusing on purely behavioral items. The appropriateness of items for the final scale will be determined later on during the item reduction process. Create as many relevant items as you can come up with***

OTHER RESOURCES FOR GENERATION ITEMS:

- Our facilitation guide which has domains of interest in the form of the questions we asked
- The ADEC presentation we did on these data
- See the Study 1 focus-group coding tree attached

Instruction Set

“These items deal with ways you've been coping with the death of your loved-one. There are many ways to try to deal with grief and loss. These items ask what you've been doing to cope with your most recent loss over these past 2 weeks. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it recently. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you've been doing it over these past two weeks. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all

2 = I've been doing this a little bit

3 = I've been doing this a medium amount

4 = I've been doing this a lot”

Themes

- The world doesn't stop
- Unprepared
- Taboo
- Alcohol/Drugs
- University Resources

Domains with Responses

- Emotionally
 - Depression

- Suicidal Ideation
- Anger/Rage
- Anxiety
- PTSD-like reactions
- Numbness
- Decreased motivation/things seem trivial
- Academically
 - Failing grades
 - Incompletes
 - *Choose between performing poorly or taking time off*
 - Deterioration in respect for some professors
 - Avoidance of night classes
 - Throwing self into classes and routine (coping)
- Relationships
 - Withdrawal/Need “alone time”
 - Bring close friendships closer
 - Bring family together
- Financially
 - Job loss
 - Travel costs
 - Loss of financial advice (if parent lost)
 - Family finances change
 - Loss of child support
 - May struggle if money is going towards other coping techniques (drugs, alcohol)

- Health
 - ***Drinking/Drugs***
 - Changes in eating behavior
 - GI upset
 - Headaches
- Worldview
 - “changes who you are”
 - Become more bitter/cynical
 - Questioning religious beliefs
 - Anger towards God
- Alcohol/Drugs
 - “Pervasive”
 - “Normal”
 - “More normal than grieving”
 - “Numbs the pain”
 - “Helps you feel again”
- Rituals
 - Wake
 - Funeral
 - Mass
 - Death Anniversary
 - Muslim Funeral Prayers
 - Mourning Colors
 - Contradicting/Questioning beliefs

- Eating together with family
- Continued Bonds
 - See rituals above
 - Honoring person (by volunteering in an organization they cared about or that was related to their death, such as organ donations)
- Social Support
 - “Close friends keep you from sinking to depression”
 - “Friends will check in on your drinking”
 - “Best friends are key”
 - Family is more distant, but still important
 - Family comes closer together
- Community/Professional Resources
 - Advisors
 - Some professors
 - Stigma against counseling
 - Little visibility for counseling services
- Disclosure/Expression
 - Hide loss to avoid pity
 - Expressive writing
 - Art
 - Music
- Avoidance
 - Sleeping all day
 - Drinking
 - Drugs

- Throwing self into routine

Appendix G

GCOPE Initial Item Pool

These items deal with ways you've been coping with the death of your loved-one. There are many ways to try to deal with grief and loss. These items ask what you've been doing to cope with your most recent loss over these past 2 weeks. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it recently. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you've been doing it over these past two weeks. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

- 1 = I haven't been doing this at all
- 2 = I've been doing this a little bit
- 3 = I've been doing this a medium amount
- 4 = I've been doing this a lot

- 1. I've been drinking alcohol more than usual (GCOPE1)
- 2. I've been using substances (illegal drugs, unprescribed pharmaceutical medications) more than usual (GCOPE2)
- 3. I've been drinking alcohol less than usual (GCOPE3)
- 4. I've been using drugs less than usual (GCOPE4)
- 5. I have used substances to avoid thinking about my loss (GCOPE5)
- 6. I have used substances to become more in touch with my feelings about the loss (GCOPE6)
- 7. I've been going to parties more often (GCOPE7)
- 8. I've been partying to feel normal (GCOPE8)
- 9. I have started drinking alcohol even when I am alone (GCOPE9)
- 10. I have started using drugs even when I am alone (GCOPE10)
- 11. I've wanted to talk about my loss (GCOPE11)
- 12. I've talked with others about my loss (GCOPE12)
- 13. I have shared my feelings with my friends (GCOPE13)
- 14. I have shared my feelings with my family (GCOPE14)
- 15. I've wanted to know about what counseling services or university resources are available (GCOPE15)
- 16. I've looked into what counseling services or university resources are available (GCOPE16)
- 17. I've made use of counseling services or university resources (GCOPE17)
- 18. I've been considering going to the University counselor (GCOPE18)
- 19. I have looked for mental health treatment outside of my University (GCOPE19)
- 20. I have attended a peer support group (GCOPE20)

21. I have led a peer support group (GCOPE21)
22. I have been involved in campus activities related to loss (GCOPE22)
23. I've been to student health (GCOPE23)
24. I have spoken to faculty about my loss (GCOPE24)
25. I have looked for support from my professors (GCOPE25)
26. I have spoken to student advising (GCOPE26)
27. I have spoken to my faculty advisor (GCOPE27)
28. I have seen a counselor to talk about my loss (GCOPE28)
29. I have scheduled an initial appointment with a counselor to talk about my loss (GCOPE29)
30. I have resisted going to a counselor to talk about my loss (GCOPE30)
31. I have spoken to my doctor or primary medical provider about my loss (GCOPE31)
32. I have looked for self-help materials on the internet (GCOPE32)
33. I have used self-help materials (GCOPE33)
34. I've felt like I couldn't deal with life (GCOPE34)
35. I've felt unprepared for what has been required for me (GCOPE35)
36. I've felt emotionally unprepared to deal with my loss (GCOPE36)
37. I've gotten very angry at people around me (GCOPE37)
38. I've gotten very angry (GCOPE38)
39. I've been focused on my emotional life (GCOPE39)
40. I've taken extra time to manage my feelings (GCOPE40)
41. I have been running memories over and over in my mind (GCOPE41)
42. I have been focused on reminders of the person I have lost (GCOPE42)
43. I have collected physical reminders of the person I have lost (GCOPE43)
44. I have visited the grave (GCOPE44)
45. I have removed reminders of the person that I have lost from my life (GCOPE45)
46. I avoid reminders of the person that I have lost (GCOPE46)
47. I've felt scared (GCOPE47)
48. I've not been able to feel emotions (GCOPE48)
49. I've felt numb (GCOPE49)
50. I've been blunting my emotions (GCOPE50)
51. I've tried everything to avoid my emotions (GCOPE51)
52. I've been turning off my emotions (GCOPE52)
53. I've been crying more than usual (GCOPE53)
54. I've been crying less than usual (GCOPE54)
55. I don't enjoy things like I used to before the loss (GCOPE55)
56. I don't have motivation to do what I need to (GCOPE56)
57. I have been writing in a journal about my feelings (GCOPE57)
58. I have been using meditation (GCOPE58)
59. I have avoided sleeping (GCOPE59)
60. I have had nightmares (GCOPE60)
61. I have processed my emotions through artwork (GCOPE61)
62. I have engaged in creative acts (e.g. arts, poetry, film) (GCOPE62)
63. I have read literature related to loss (GCOPE63)
64. I have lost enjoyment in some activities because they seem meaningless since my loss (GCOPE64)
65. I haven't been going to class (GCOPE65)
66. I've been late to class/work (GCOPE66)
67. I've skipped class/work (GCOPE67)

68. I've thought about dropping out of one or more classes (GCOPE68)
69. I feel pressure to choose between self-care and working on school work (GCOPE69)
70. I have sought support from my professors about my loss (GCOPE70)
71. I have lost respect for some of my professors (GCOPE71)
72. I have been focusing on my schoolwork and studies (GCOPE72)
73. I have thrown myself into my schoolwork (GCOPE73)
74. I have been avoiding class (GCOPE74)
75. I have considered dropping one or more courses (GCOPE75)
76. I have dropped a class (GCOPE76)
77. I am planning to take time off from school (GCOPE77)
78. I've been going to class/work more than usual (GCOPE78)
79. I've thrown myself into my work/schoolwork (GCOPE79)
80. I've followed a strict routine (GCOPE80)
81. I have kept myself very busy ever since the loss (GCOPE81)
82. I have focused on practical issues (GCOPE82)
83. I have been planning family events (GCOPE83)
84. I planned the funeral/wake (GCOPE84)
85. I have taken on new responsibilities within my family (GCOPE85)
86. I have taken on new responsibilities (GCOPE86)
87. I have worked more to help pay costs associated with the loss (GCOPE87)
88. I have spent money recklessly (GCOPE88)
89. I have taken on more responsibilities at work (GCOPE89)
90. I have struggled to make ends meet (GCOPE90)
91. I have asked for financial help from friends (GCOPE91)
92. I have asked for financial help from family (GCOPE92)
93. I have had to chip in more to make ends meet (GCOPE93)
94. I've exercised more than usual (GCOPE94)
95. I've exercised less than usual (GCOPE95)
96. I've been to the Emergency Room (GCOPE96)
97. I sleep more than usual (GCOPE97)
98. I have difficulty sleeping (GCOPE98)
99. I have had difficulty concentrating (GCOPE99)
100. I have gone to my primary medical provider for support (GCOPE100)
101. I have gone to my primary medical provider for a doctor's note (GCOPE101)
102. I have focused more on physical problems (GCOPE102)
103. I have been physically ill more often (GCOPE103)
104. I have used illness as an excuse to take time off (GCOPE104)
105. I have started taking a psychiatric medication (GCOPE105)
106. I have used medications to help with my feelings (GCOPE106)
107. My thoughts about others (friends, professors, family) have changed (GCOPE107)
108. I like others (friends, professors, family) more (GCOPE108)
109. I like others (friends, professors, family) less (GCOPE109)
110. I spend more time with my family since my loss (GCOPE110)
111. I use humor to talk about my loss with my friends (GCOPE111)
112. I avoid talking about my loss because I don't want people to feel sorry for me (GCOPE112)
113. I avoid talking about my loss because I don't want pity (GCOPE113)
114. I have relied on friends to help me through my loss (GCOPE114)

115. I have avoided my friends since my loss (GCOPE115)
116. I spend less time with friends who do not understand what I am going through (GCOPE116)
117. I talk to my friends when I am feeling down (GCOPE117)
118. I talk with my family when I am feeling down (GCOPE118)
119. I have reached out more often to my family since my loss (GCOPE119)
120. I have talked to others about their own losses (GCOPE120)
121. I have helped others with their own loss experiences (GCOPE121)
122. I have been focused on new relationships (GCOPE122)
123. I have worked as a peer counselor (GCOPE123)
124. I have made new friends (GCOPE124)
125. I have started new relationships (GCOPE125)
126. I have withdrawn socially (GCOPE126)
127. I have questioned my religious beliefs (GCOPE127)
128. I have reevaluated my priorities (GCOPE128)
129. I have reexamined my spiritual beliefs (GCOPE129)
130. I have prayed more (GCOPE130)
131. I have prayed less (GCOPE131)
132. I have attended church more than usual (GCOPE132)
133. I have attended church less than usual (GCOPE133)
134. I have drawn from my religious beliefs for comfort (GCOPE134)
135. I have changed my religious beliefs (GCOPE135)
136. I have experienced a religious conversion (GCOPE136)
137. I have spoken to a religious leader to find guidance (GCOPE137)
138. I have thought about the afterlife (GCOPE138)
139. I have found comfort in my beliefs about the afterlife (GCOPE139)
140. I have tried to make sense of what happened (GCOPE140)
141. I have tried to fit my loss into my beliefs about the world (GCOPE141)
142. I have learned to think differently about my loss (GCOPE142)
143. I have put my loss in perspective (GCOPE143)
144. I have felt that the world has no meaning (GCOPE144)
145. I have felt that all things in life are random (GCOPE145)
146. I have lost meaning in life (GCOPE146)
147. I have found meaning in new relationships (GCOPE147)
148. I have connected with others (GCOPE148)
149. I have reevaluated how I see the world (GCOPE149)
150. I see the world differently (GCOPE150)
151. I've been telling jokes and laughing (GCOPE151)
152. I've been focused on fond memories (GCOPE152)
153. I've been laughing more (GCOPE153)
154. I have felt the presence of my lost loved-one (GCOPE154)
155. I have had dreams about my lost loved-one (GCOPE155)
156. I have imagined that my lost loved-one is still with me (GCOPE156)
157. I have focused on the traits I share with my lost loved-one (GCOPE157)
158. I have thought about what my loved-one would want me to do (GCOPE158)
159. I have felt like my loved-one is with me (GCOPE159)
160. I have changed my behavior to be more like my lost loved-one (GCOPE160)
161. I have broken my ties with my lost loved-one (GCOPE161)

162. I have realized that my loved-one is gone forever (GCOPE162)
163. I have seen aspects of my loved-one within myself (GCOPE163)
164. I have noticed that I am stronger since my loss (GCOPE164)
165. I have accomplished things I never thought I would be able to (GCOPE165)
166. I am emotionally stronger now (GCOPE166)
167. I have focused on positive changes in my life (GCOPE167)
168. I have found benefits in how my life has changed (GCOPE168)
169. I have tried to see myself as a new person (GCOPE169)
170. I have thought about how different I have become (GCOPE170)
171. I am a different person now (GCOPE171)
172. I have felt that I have changed for the worse (GCOPE172)
173. I have felt that I have changed for the better (GCOPE173)
174. I have participated in religious or cultural rituals related to the loss (GCOPE174)
175. I have found comfort in thinking about the funeral (GCOPE175)
176. I have been guided by my culture in dealing with my loss (GCOPE176)
177. I have engaged in cultural practices related to my loss (GCOPE177)
178. I helped to plan a funeral or wake (GCOPE178)
179. I have kept religious symbols with me (GCOPE179)
180. I have focused on my religious faith (GCOPE180)
181. I have asked God to help me get through this (GCOPE181)
182. I have lost my sense of humor (GCOPE182)
183. I am much more sensitive to other peoples pain (GCOPE183)
184. I'm not as much fun as I used to be (GCOPE184)
185. I'm not as light or care free as I was before my loss (GCOPE185)
186. I am occupied with the loss (GCOPE186-W)
187. I dwell on my sorrow (GCOPE187-W)
188. I think of my deceased loved-one (GCOPE188-W)
189. I direct my thoughts towards the future (GCOPE189-W)
190. Despite everything, I am trying to make the best of it (GCOPE190-W)
191. I try to look ahead (GCOPE191-W)
192. I am trying to go on with my life (GCOPE192-W)

Appendix H

The Brief COPE

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

- 1 = I haven't been doing this at all
- 2 = I've been doing this a little bit
- 3 = I've been doing this a medium amount
- 4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.

15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

Appendix I

The Brief RCOPE for Grief

The following items deal with ways you coped with the loss of a loved one which you have experienced. There are many ways to try to deal with problems. These items ask what you did to cope with this negative event. Obviously different people deal with things in different ways, but we are interested in how you tried to deal with it. Each item says something about a particular way of coping. We want to know to what extent you did what the item says. *How much or how frequently*. Don't answer on the basis of what worked or not-just whether or not you did it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can. Circle the answer that best applies to you.

1 – Not at all 2- Somewhat 3- Quite a bit 4- A great deal

Maladaptive Religious Coping

Punishing God Reappraisal

- | | | | | |
|--|---|---|---|---|
| 1. Wondered what I did for God to punish me | 1 | 2 | 3 | 4 |
| 2. Decided that God was punishing me for my sins | 1 | 2 | 3 | 4 |
| 3. Felt punished by God for my lack of devotion | 1 | 2 | 3 | 4 |

Spiritual Discontent

- | | | | | |
|---|---|---|---|---|
| 4. Wondered whether God had abandoned me | 1 | 2 | 3 | 4 |
| 5. Voiced anger that God didn't answer my prayers | 1 | 2 | 3 | 4 |
| 6. Questioned God's love for me | 1 | 2 | 3 | 4 |

Interpersonal Religious Discontent

7. Disagreed with what the church wanted me to do or believe	1	2	3	4
8. Felt dissatisfaction with the clergy	1	2	3	4
9. Wondered whether my church had abandoned me	1	2	3	4

Adaptive Religious Coping

Collaborative Religious Coping

10. Tried to put my plans into action together with God	1	2	3	4
11. Worked together with God as partners	1	2	3	4
12. Tried to make sense of the situation with God	1	2	3	4

Active Religious Surrender

13. Did my best and then turned the situation over to God	1	2	3	4
14. Did what I could and put the rest in God's hands	1	2	3	4
15. Took control over what I could, and gave the rest up to God	1	2	3	4

Seeking Spiritual Support

16. Sought God's love and care	1	2	3	4
17. Trusted that God would be by my side	1	2	3	4
18. Looked to God for strength, support, and guidance	1	2	3	4

Appendix J

The Integration of Stressful Life Events Scale

Please indicate the extent to which you agree or disagree with the following statements with regard to (the most stressful life event you experienced in the past two years). Read each statement carefully and be aware that a response of agreement or disagreement may not have the same meaning across all items.

1. Since this event, the world seems like a confusing and scary place

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

2. I have made sense of this event.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

3. If or when I talk about this event, I believe People see me differently.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

4. I have difficulty integrating this event into my understanding about the world.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

5. Since this event, I feel like I'm in a crisis of faith.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

6. This event is incomprehensible to me.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

7. My previous goals and hopes for the future don't make sense anymore since this event.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

8. I am perplexed by what happened.

Strongly Agree *Agree* *Neither Agree nor Disagree* *Disagree* *Strongly Disagree*

9. Since this event happened, I don't know where to go next in my life.

Strongly Agree *Agree* *Neither Agree nor Disagree* *Disagree* *Strongly Disagree*

10. I would have an easier time talking about my life if I left this event out.

Strongly Agree *Agree* *Neither Agree nor Disagree* *Disagree* *Strongly Disagree*

11. My beliefs and values are less clear since this event.

Strongly Agree *Agree* *Neither Agree nor Disagree* *Disagree* *Strongly Disagree*

12. I don't understand myself anymore since this event.

Strongly Agree *Agree* *Neither Agree nor Disagree* *Disagree* *Strongly Disagree*

13. Since this event, I have a harder time feeling like I'm part of something larger than myself

Strongly Agree *Agree* *Neither Agree nor Disagree* *Disagree* *Strongly Disagree*

14. This event has made me feel less purposeful.

Strongly Agree *Agree* *Neither Agree nor Disagree* *Disagree* *Strongly Disagree*

15. I haven't been able to put the pieces of my life back together since this event.

Strongly Agree *Agree* *Neither Agree nor Disagree* *Disagree* *Strongly Disagree*

16. After this event, life seems more random.

Strongly Agree

Agree

Neither Agree nor Disagree

Disagree

Strongly Disagree

Appendix K

The GCOPE

These items deal with ways you've been coping with the death of your loved-one. There are many ways to try to deal with grief and loss. These items ask what you've been doing to cope with your most recent loss over these past 2 weeks. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it recently. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you've been doing it over these past two weeks. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all 2 = I've been doing this a little bit

3 = I've been doing this a medium amount 4 = I've been doing this a lot

1. I have difficulty concentrating
2. I've felt like I couldn't deal with life
3. I don't have motivation to do what I need to
4. I've gotten very angry
5. I've felt numb
6. I have withdrawn socially
7. I'm not as much fun as I used to be
8. I have lost enjoyment in some activities because they seem meaningless since my loss
9. I have focused on positive changes in my life
10. I have noticed that I am stronger since my loss
11. I have started new relationships
12. I have found meaning in new relationships
13. I have found benefits in how my life has changed
14. I have been focused on new relationships
15. I have felt that I have changed for the better
16. I have focused on my religious faith
17. I have prayed more
18. I have asked God to help me get through this
19. I've been using substances (illegal drugs, unprescribed pharmaceutical medications) more than usual
20. I have started using drugs even when I am alone
21. I have used substances to avoid thinking about my loss
22. I've been drinking alcohol more than usual
23. I have started drinking alcohol even when I am alone

- 24. I have shared my feelings with my family
- 25. I talk with my family when I am feeling down
- 26. I have reached out more often to my family since my loss
- 27. I've talked with others about my loss

Vita

Benjamin Dyson Lord was born on September 25th, 1985 at Bethesda Naval Hospital in Bethesda, MD. He was raised primarily in Virginia, and graduated from Chancellor High School in 2003. He received his Bachelor of Science degree from Longwood University in May, 2007 with a Major in Psychology and a Minor in English Literature. He was accepted into the Clinical Psychology PhD program at Virginia Commonwealth University in 2007 and was a member of the Behavioral Medicine emphasis track. He received his Masters of Science degree in Clinical Psychology from Virginia Commonwealth University in May, 2010. He completed his pre-doctoral internship in Clinical Health Psychology at VA Connecticut Healthcare System in June, 2015, and has accepted a staff position as a Primary Care Psychologist at the James A. Haley VAMC in Tampa, Florida after graduation. He defended his doctoral dissertation in June, 2015.